HCD-DZ230/DZ231/HDZ235

SERVICE MANUAL

US Model
Canadian Model
HCD-HDZ235
AEP Model
UK Model
HCD-DZ230/DZ231

Self Diagnosis Supported model

Ver. 1.1 2007.03

Photo : HCD-DZ230

HCD-DZ230/DZ231/HDZ235 are the amplifier, DVD/CD and tuner section in DAV-DZ230/DZ231/HDZ235.

This system incorporates with Dolby* Digital and Dolby Pro Logic (II) adaptive matrix surround decoder and the DTS** Digital Surround System.

* Manufactured under license from Dolby Laboratories.
"Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories.

** Manufactured under license from DTS, Inc.
"DTS" and "DTS Digital Surround" are registered trademarks of DTS, Inc.

Model Name Using Similar Mechanism	HCD-DZ110
Mechanism Type	CDM85-DVBU102
Optical Pick-up Name	KHM-313CAA

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS for the US model (HDZ235)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 3 ohms loads, both channels driven, from 120 - 20,000 Hz; rated 84 watts per channel minimum RMS power, with no more than 0.7 % total harmonic distortion from 250 milli watts to rated output.

Amplifier section

Stereo mode (rated)	108 W + 108 W (at 3 ohms, 1 kHz, 1 % THD) (DZ230/DZ231)
Surround mode (reference)	RMS output power FL/FR/C/SL/SR*: 142 watts (per channel at 3 ohms, 1 kHz, 10 % THD) Subwoofer*: 140 watts (at 3 ohms, 80 Hz, 10 % THD)

* *Depending on the sound field settings and the source, there may be no sound output.*

Inputs (Analog)	
TV/VIDEO (AUDIO IN)	Sensitivity: 450/250 mV
AUDIO IN	Sensitivity: 250/125 mV
Outputs (Analog)	
Phones	Accepts low-and high-impedance headphones.

DVD system

Laser	Semiconductor laser (DVD: λ = 650 nm) (CD: λ = 790 nm) Emission duration: continuous
Signal format system	PAL (DZ230/DZ231), NTSC (HDZ235)

Tuner section

System	PLL quartz-locked digital synthesizer
FM tuner section	
Tuning range	
North American models:	87.5-108.0 MHz (100 kHz step)
Other models:	87.5-108.0 MHz (50 kHz step)
Antenna (aerial)	FM wire antenna (aerial)
Antenna (aerial) terminals	75 ohms, unbalanced
Intermediate frequency	10.7 MHz
AM tuner section	
Tuning range	
North American models:	530 – 1,710 kHz (with the interval set at 10 kHz) 531 – 1,710 kHz (with the interval set at 9 kHz)
European models:	531 – 1,602 kHz (with the interval set at 9 kHz)
Antenna (aerial)	AM loop antenna (aerial)
Intermediate frequency	450 kHz

Video section

Outputs:	DZ230/DZ231: VIDEO: 1 Vp-p 75 ohms R/G/B: 0.7 Vp-p 75 ohms HDMI OUT: Type A (19 pin) HDZ235: VIDEO: 1 Vp-p 75 ohms S VIDEO: Y: 1 Vp-p 75 ohms C: 0.286 Vp-p 75 ohms COMPONENT: Y: 1 Vp-p 75 ohms P_B/C_B, P_R/C_R: 0.7 Vp-p 75 ohms HDMI OUT: Type A (19 pin)

— Continued on next page —

DVD RECEIVER

9-887-523-02
2007C16-1
© 2007.03

Sony Corporation
Home Audio Division
Published by Sony Techno Create Corporation

SONY

General

DZ230/DZ231:

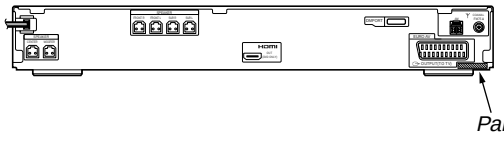
Power requirements	220 – 240 V AC, 50/60 Hz
Power outputs (DIGITAL MEDIA PORT)	
	DC OUT: 5 V, 700 mA

HDZ235:

Power requirements	120 V AC, 60 Hz
Power consumption	On: 150 W Standby: 0.3 W (at the Power Saving mode)
Dimensions (approx.)	430 × 63 × 380 mm (17 × 2 1/2 × 15 inches) (w/h/d) incl. projecting parts
Mass (approx.)	4.1 kg (9 lb 1 oz)

Design and specifications are subject to change without notice.

MODEL IDENTIFICATION
– Rear Panel –



Model	Part No.
DZ230 : AEP, UK models	2-889-997-0□
DZ231 : AEP, UK models	2-889-997-1□
HDZ235 : US, CND models	2-889-997-2□

- Abbreviation
  CND : Canadian model

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COM- POSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

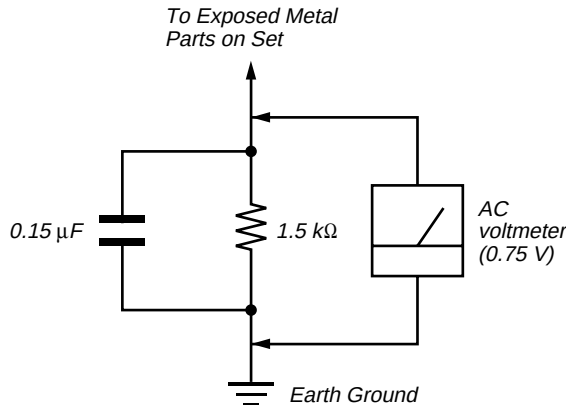


Fig. A. Using an AC voltmeter to check AC leakage.

Special Component Notice

The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

Notice pour composants spéciaux

Les composants identifiés par la marque 🔒 contiennent des informations confidentielles.
Suivre scrupuleusement les instructions chaque fois qu'un composant est remplacé et / ou réparé.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. This marking is located on the rear exterior.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

: LEAD FREE MARK

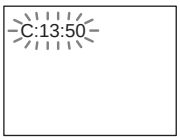
Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscou-s (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

Self-diagnosis Function

(When letters/numbers appear in the display)

When the self-diagnosis function is activated to prevent the system from malfunctioning, a 5-character service number (e.g., C 13 50) with a combination of a letter and 4 digits appears on the screen and the front panel display. In this case, check the following table.



First 3 characters of the service number	Cause and/or corrective action
C 13	The disc is dirty. ➡Clean the disc with a soft cloth
C 31	The disc is not inserted correctly. ➡Restart the system, then re-insert the disc correctly.
E XX (xx is a number)	To prevent a malfunction, the system has performed the self-diagnosis function. ➡Contact your nearest Sony dealer or local authorized Sony service facility and give the 5-character service number. Example: E 61 10

When displaying the version number on the screen

When you turn on the system, the version number [VER.X.XX] (X is a number) may appear on the screen. Although this is not a malfunction and for Sony service use only, normal system operation will not be possible. Turn off the system, and then turn on the system again to operate.

TABLE OF CONTENTS

1. SERVICING NOTE 5

2. GENERAL 9

3. DISASSEMBLY

3-1. Disassembly Flow 12
3-2. Case (DS), Front Panel Assy 13
3-3. FL Board 14
3-4. JACK Board, P-SW Board 15
3-5. DMPORT Board (DZ230/DZ231), Tuner (FM/AM) 15
3-6. IO-SCART Board (DZ230/DZ231) 16
3-7. IO-S-OUT Board (HDZ235) 16
3-8. POWER Board 17
3-9. SPEAKER Board, D.C. Fan 17
3-10. MAIN Board 18
3-11. DVD Mechanism Deck (CDM85-DVBU102) 19
3-12. Tray 19
3-13. Belt, MS-203 Board 20
3-14. Optical Pick-up (KHM-313CAA) 21

4. TEST MODE 22

5. ELECTRICAL ADJUSTMENT 27

6. DIAGRAMS

6-1. Block Diagram – RF Section – 30
6-2. Block Diagram – VIDEO Section – 31
6-3. Block Diagram – AUDIO Section – 32
6-4. Block Diagram – AMP Section – 33
6-5. Block Diagram – POWER Section – 34
6-6. Printed Wiring Board – MAIN Board (Side A) – 35
6-7. Printed Wiring Board – MAIN Board (Side B) – 36
6-8. Schematic Diagram – MAIN Board (1/9) – 37
6-9. Schematic Diagram – MAIN Board (2/9) – 38
6-10. Schematic Diagram – MAIN Board (3/9) – 39
6-11. Schematic Diagram – MAIN Board (4/9) – 40
6-12. Schematic Diagram – MAIN Board (5/9) – 41
6-13. Schematic Diagram – MAIN Board (6/9) – 42
6-14. Schematic Diagram – MAIN Board (7/9) – 43
6-15. Schematic Diagram – MAIN Board (8/9) – 44
6-16. Schematic Diagram – MAIN Board (9/9) – 45
6-17. Printed Wiring Board – MS-203 Board – 46
6-18. Schematic Diagram – MS-203 Board – 46
6-19. Printed Wiring Board – IO-SCART Board (DZ230/DZ231) – 47
6-20. Schematic Diagram – IO-SCART Board (DZ230/DZ231) – 48
6-21. Printed Wiring Board – IO-S-OUT Board (HDZ235) – 49
6-22. Schematic Diagram – IO-S-OUT Board (HDZ235) – 50
6-23. Printed Wiring Boards – FL, JACK Board – 51
6-24. Schematic Diagram – FL Board – 52
6-25. Schematic Diagram – JACK Board – 53
6-26. Printed Wiring Board – DMPORT Board (DZ230/DZ231) – 54
6-27. Schematic Diagram – DMPORT Board (DZ230/DZ231) – 54
6-28. Printed Wiring Boards – SPEAKER, P-SW Board – 55
6-29. Schematic Diagram – SPEAKER, P-SW Board – 55
6-30. Printed Wiring Board – POWER Board – 56
6-31. Schematic Diagram – POWER Board – 57

7. EXPLODED VIEWS

7-1. Overall Section 70
7-2. Front Panel Section 71
7-3. Chassis Section 72
7-4. DVD Mechanism Deck Section (CDM85-DVBU102) 73

8. ELECTRICAL PARTS LIST 74

SECTION 1
SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

DISC TRAY LOCK

The disc tray lock function for the antitheft of an demonstration disc in the store is equipped.

Setting Procedure :

1. Press the I/⏻ button to turn the set on.
2. Press the FUNCTION button to set DVD function.
3. Insert a disc.
4. Press the ■ button and the ⏏ button simultaneously for five seconds.
5. The message “LOCKED” is displayed and the tray is locked.

Releasing Procedure :

1. Press the ■ button and the ⏏ button simultaneously for five seconds again.
2. The message “UNLOCKED” is displayed and the tray is unlocked.

Note: When “LOCKED” is displayed, the tray lock is not released by turning power on/off with the I/⏻ button.

On cleaning discs, disc/lens cleaners

- Do not use cleaning discs or disc/lens cleaners (including wet or spray types). These may cause the apparatus to malfunction.

IMPORTANT NOTICE

Caution: This system is capable of holding a still video image or on-screen display image on your television screen indefinitely. If you leave the still video image or on-screen display image displayed on your TV for an extended period of time you risk permanent damage to your television screen.
Projection televisions are especially susceptible to this.

Attention when transported

Use this mode when returning the set to the customer after repair.

Procedure:

1. Press the I/⏻ button to turn the set on.
2. Press the FUNCTION button to set the function “DVD”.
3. Remove all discs, and then press two buttons ▷ and I/⏻ simultaneously.
4. After a message “MECHA LOCK” is displayed on the fluorescent indicator tube, pull out the AC plug.
5. To exit from this mode, press the I/⏻ button to turn the set on.

Note about CDs/DVDs

The system can play CD-ROMs/CD-Rs/CD-RWs recorded in the following formats:

– audio CD format
– VIDEO CD format
– MP3 audio tracks, JPEG image files, and DivX video files* of format conforming to ISO 9660 Level 1/Level 2, or its extended format, Joliet

The system can play DVD-ROMs/DVD+RWs/DVD-RWs/DVD+Rs/DVD-Rs recorded in the following formats:

– MP3 audio tracks, JPEG image files, and DivX video files* of format conforming to UDF (Universal Disc Format)

* Except for United Kingdom and North American models.

Example of discs that the system cannot play

The system cannot play the following discs:

- CD-ROMs/CD-Rs/CD-RWs other than those recorded in the formats listed on “Note about CDs/DVDs”
- CD-ROMs recorded in PHOTO CD format
- Data part of CD-Extras
- DVD Audios
- Super Audio CD
- DATA DVDs that do not contain MP3 audio tracks, JPEG image files, or DivX video files*

* Except for United Kingdom and North American models.

- DVD-RAMs

Also, the system cannot play the following discs:

- A DVD VIDEO with a different region code
- A disc that has a non-standard shape (e.g., card, heart)
- A disc with paper or stickers on it
- A disc that has the adhesive of cellophane tape or a sticker still left on it

Notes about CD-R/CD-RW/DVD-R/DVD-RW/DVD+R/DVD+RW

In some cases, CD-R/CD-RW/DVD-R/DVD-RW/DVD+R/DVD+RW cannot be played on this system due to the recording quality or physical condition of the disc, or the characteristics of the recording device and authoring software.
The disc will not play if it has not been correctly finalized. For more information, see the operating instructions for the recording device.
Note that some playback functions may not work with some DVD+RWs/DVD+Rs, even if they have been correctly finalized. In this case, view the disc by normal playback. Also some DATA CDs/DATA DVDs created in Packet Write format cannot be played.

Copyrights

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

This system incorporates with Dolby* Digital and Dolby Pro Logic (II) adaptive matrix surround decoder and the DTS** Digital Surround System.

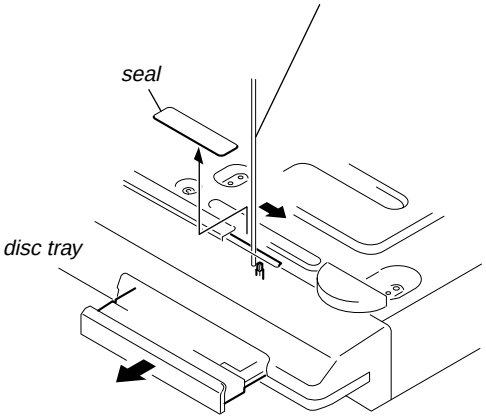
* Manufactured under license from Dolby Laboratories.
“Dolby”, “Pro Logic”, and the double-D symbol are trademarks of Dolby Laboratories.

** Manufactured under license from DTS, Inc.
“DTS” and “DTS Digital Surround” are registered trademarks of DTS, Inc.

How to open the disc table when power switch turns off

Insert a tapering driver into the aperture of the unit bottom, and slide it in the direction of the arrow.

Peel off the seal and so the lever is moved in the direction of the arrow with the thin rod.

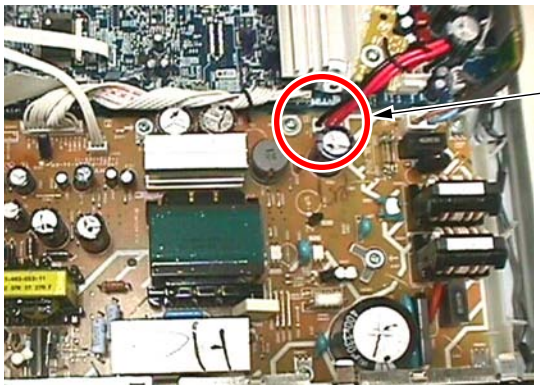


Discharge the charged electricity in capacitors to prevent electric shock as follows

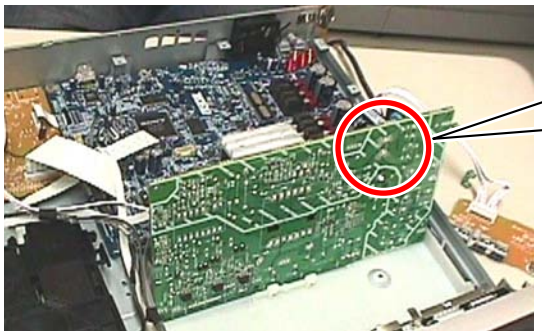
When disassembling the machine, be sure to discharge the charged electricity in the following capacitors.
Use a resistor of 800 ohms, 2 Watts for discharging the following capacitors.

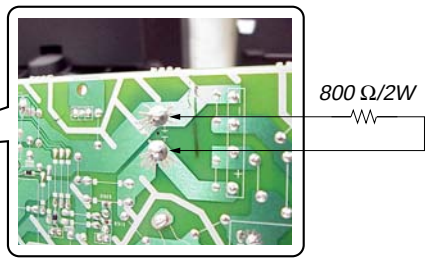
POWER board
C903: 390 V
C932, C933, C934, CN904: 30 V

MAIN board
CN3002: 30 V



Point of capacitor discharge for C932, C933, C934:
Connect to the red and black wire of CN904





Point of capacitor discharge for C903:
Connect to the foot of CN903

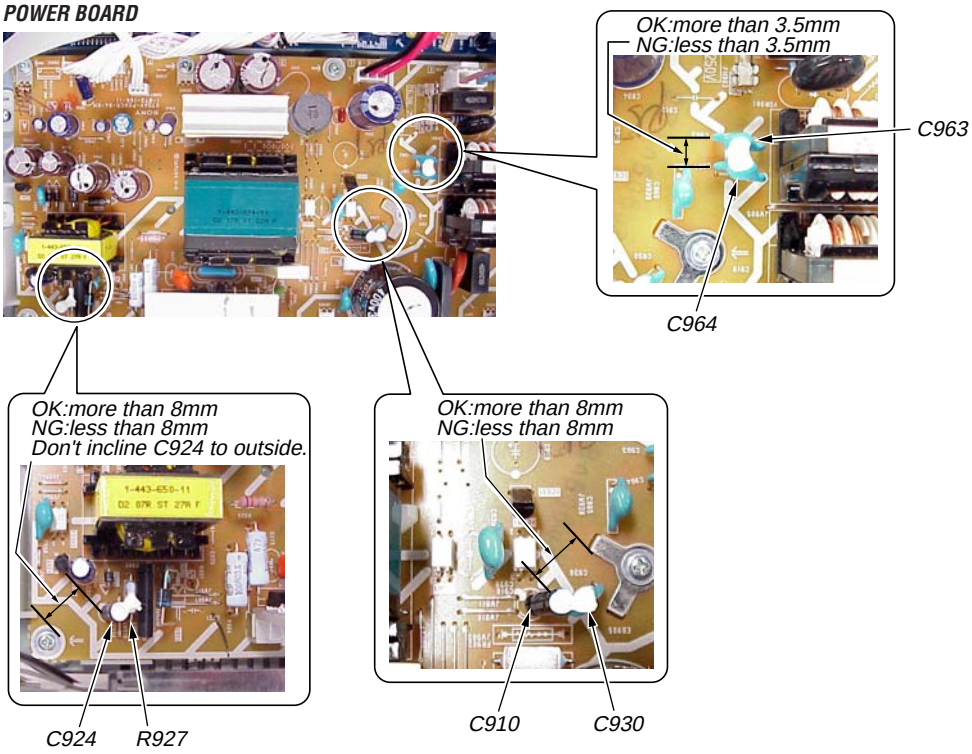
Parts that require fixing using adhesive agent

The following parts on the POWER board and on the MAIN board must be fixed by using the adhesive agent (such as Sony Bond Master) as it is specified by Safety Regulations. When any part or printed circuit board is replaced during repair work, be sure to confirm that the following capacitors and resistors are fixed by using the adhesive agent (such as Sony Bond Master) without fail.

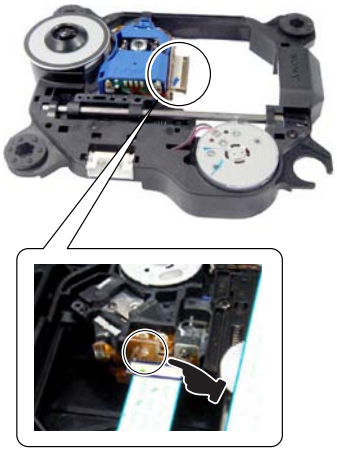
MAIN board : • *C3081 and C3082 (C3081 is inclined to C3082 a little.)*

POWER board :
- *C924 and R927 (refer to below fig.)*
- *C913 (Push down to C903 side and so fix.)*
- *C910 and C930 (refer to below fig.)*
- *EB905 side of C903*
- *EB905 side of C934*
- *C964 and C963 (refer to below fig.)*
- *Space between C933 and C932*

POWER BOARD



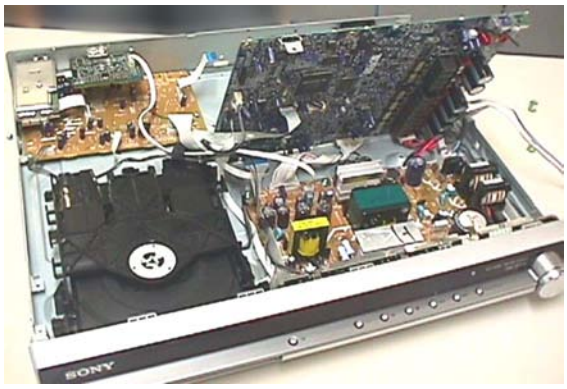
Precaution when installing a new OP unit / Precaution before unsoldering the static electricity prevention solder bridge

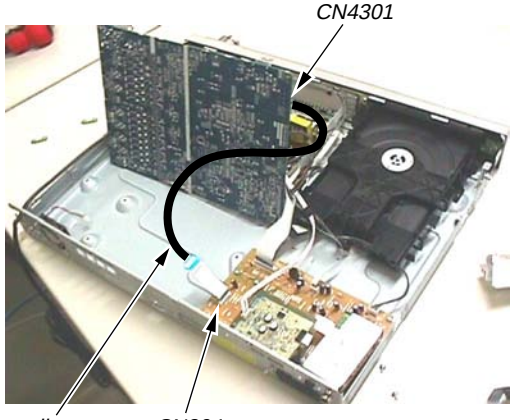


When installing a new OP unit, be sure to connect the flexible printed circuit board first of all before removing the static electricity prevention solder bridge by unsoldering.
Remove the static electricity prevention solder bridge by unsoldering after the flexible printed circuit board has already been connected.
(Do not remove nor unsolder the solder bridge as long as the OP unit is kept standalone.)

MAIN board service position

Please take the above-mentioned position in the repair of MAIN board.
In that case, it is necessary the following extension cable during CN304 on IO-SCART board (DZ230/DZ231)/ IO-S-OUT board (HDZ235) and CN4301 (DZ230/DZ231), CN4302 (HDZ235) on MAIN board.



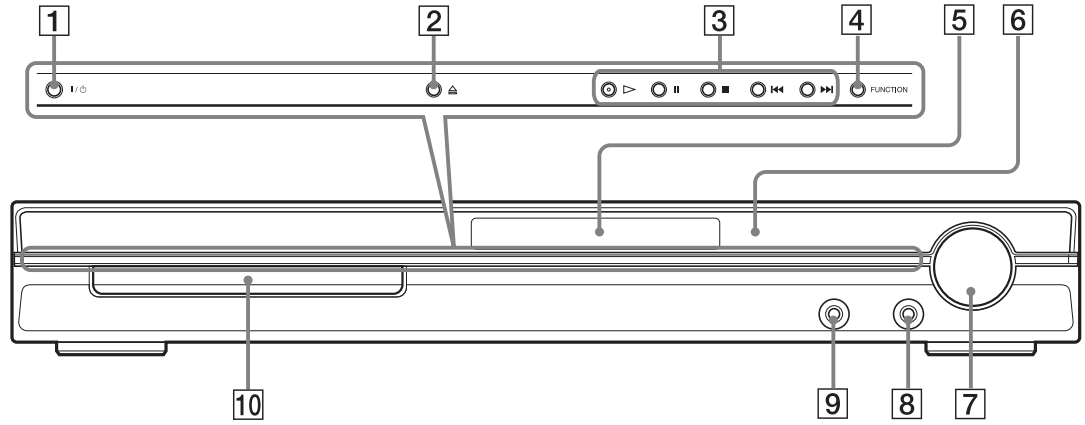


DZ230/DZ231: *jig P/N: J-2501-102-A*
(pitch 1.00 mm/13p/length 300 mm)

HDZ235: *jig P/N: J-2501-242-A*
(pitch 1.00 mm/11p/length 300 mm)

SECTION 2
GENERAL

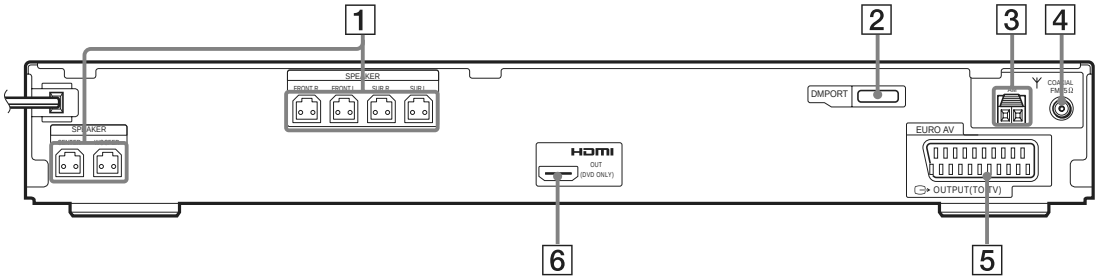
Front panel



1 **I/⏻ (on/standby)**
2 **⏏ (open/close)**
3 **Disc operation**
4 **FUNCTION**
5 **Front panel display**
6 **(remote sensor)**
7 **VOLUME control**
8 **PHONES jack**
9 **AUDIO IN/A.CAL MIC jack**
10 **Disc tray**

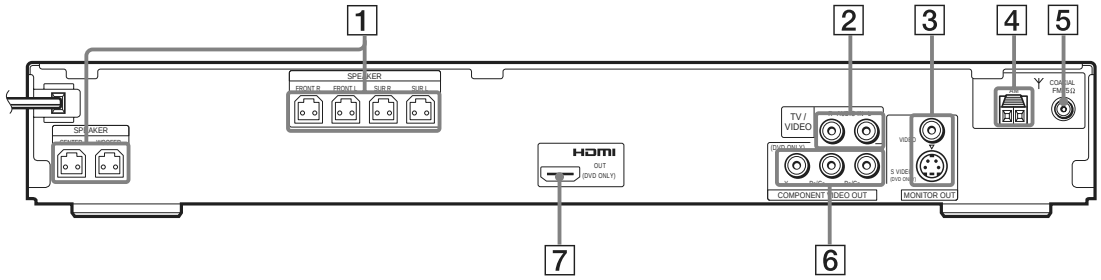
Rear panel

DZ230/DZ231



1 **SPEAKER jacks**
2 **DMPORT (DIGITAL MEDIA PORT) jack**
3 **AM terminal**
4 **COAXIAL FM 75Ω jack**
5 **EURO AV ⇨ OUTPUT (TO TV) jack**
6 **HDMI OUT jack**

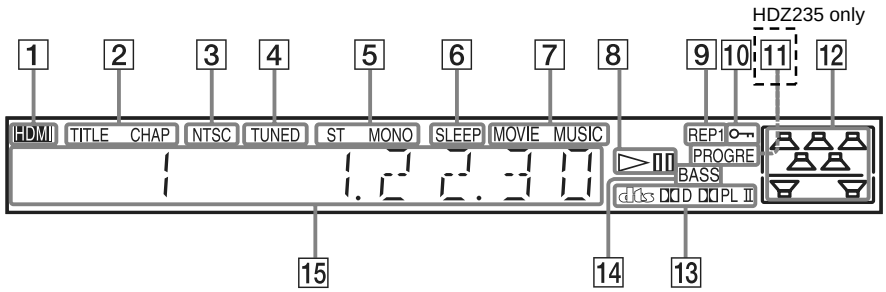
HDZ235



1 **SPEAKER jacks**
2 **TV/VIDEO (AUDIO IN R/L) jacks**
3 **MONITOR OUT (S VIDEO/VIDEO) jacks**
4 **AM terminal**
5 **COAXIAL FM 75Ω jack**
6 **COMPONENT VIDEO OUT jacks**
7 **HDMI OUT jack**

Front panel display

About the indications in the front panel display



1. **Lights up when the HDMI OUT jack is correctly connected to HDCP (high-bandwidth digital content protection) compliant device with HDMI or DVI (digital visual interface) input.**
2. **Lights up when the time information of a title or chapter appears in the front panel display. (DVD only)**
3. **Lights up when the color system is set to NTSC. (DZ230/DZ231 only)**
4. **Lights up when a station is received. (Radio only)**
5. **Stereo/Monaural effect (Radio only)**
6. **Lights up when the sleep timer is set.**
7. **Lights up when the movie or music mode is selected.**
8. **Playing status (DVD function only)**
9. **Current repeat mode**
10. **Lights up when the child lock function is set to on. (HDZ235 only)**
11. **Lights up when the system outputs progressive signals (DVD function only).**
12. **Indicates the selected [SPEAKER FORMATION].**
13. **Current surround format (Except for JPEG)**
14. **Lights up when the DYNAMIC BASS is selected.**
15. **Displays system's status such as chapter, title, or track number, time information, radio frequency, playing status, sound field, etc.**

Remote control

ALPHABETICAL ORDER

A – O

ANGLE 5
AUDIO 4
CLEAR 34
D.TUNING 24
DISC SKIP* 35
DISPLAY 2
DVD MENU 26
DVD TOP MENU 14
DYNAMIC BASS 23
ENTER 25
FUNCTION 22
MOVIE/MUSIC 17
MUTING 7
Number buttons** 15

P – Z

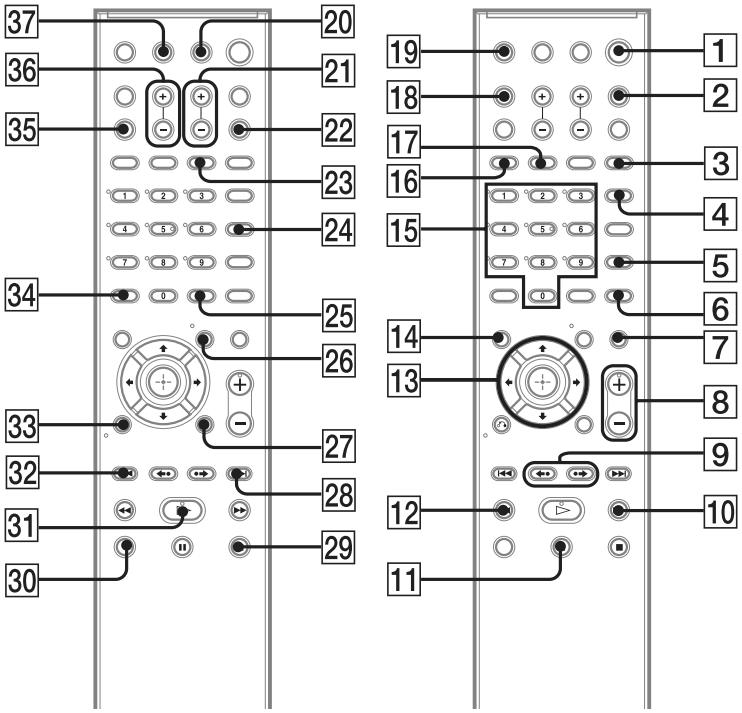
PICTURE NAVI 6
PRESET +/– 28 32
SOUND FIELD 16
SUBTITLE 24
SYSTEM MENU 25
THEATRE SYNC 20
TUNING +/– 10 12
TV 30
TV CH +/– 21
TV INPUT 18
TV VOL +/– 36
VIDEO FORMAT 3
VOLUME +/–** 8

BUTTON DESCRIPTIONS

I/⏻ (on/standby) 1
TV I/⏻ (on/standby) 37
←/↑/↓/→/⊕ 13
⏮/⏭ REPLAY/ ADVANCE 9
⏮/⏭ 32 28
◀◀/▶▶ 12 10
◀I/I▶ SLOW 12 10
▷ (play)** 31
◀II/II▶ STEP 9
■ (stop) 29
▮▮ (pause) 11
⏏ (open/close) 19
DISPLAY 27
RETURN 33
-/-- 34

* The DISC SKIP button is not available for this model.

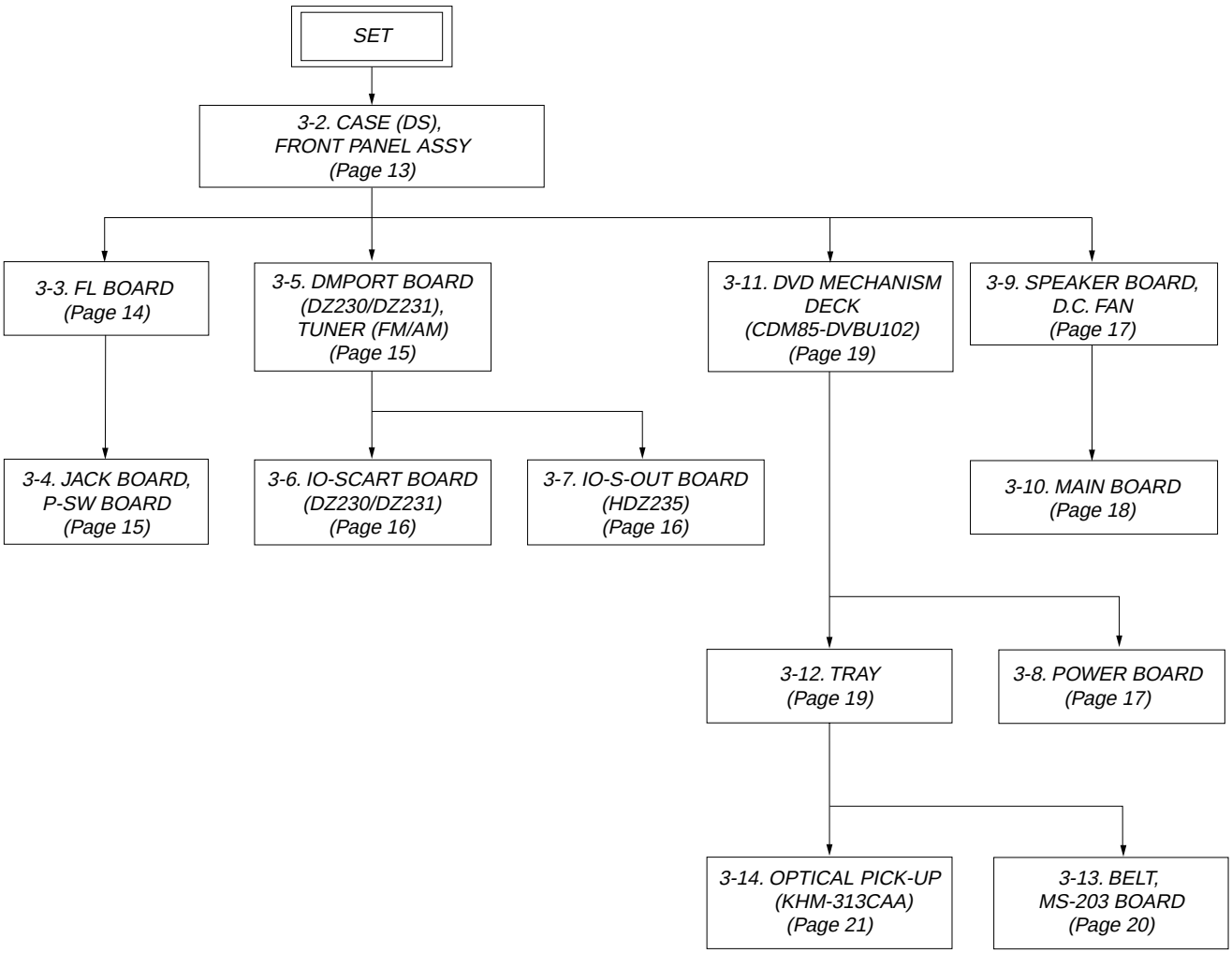
** The ▷, number 5, and VOLUME + buttons have tactile dots. Use the tactile dots as references when operating the system.



SECTION 3
DISASSEMBLY

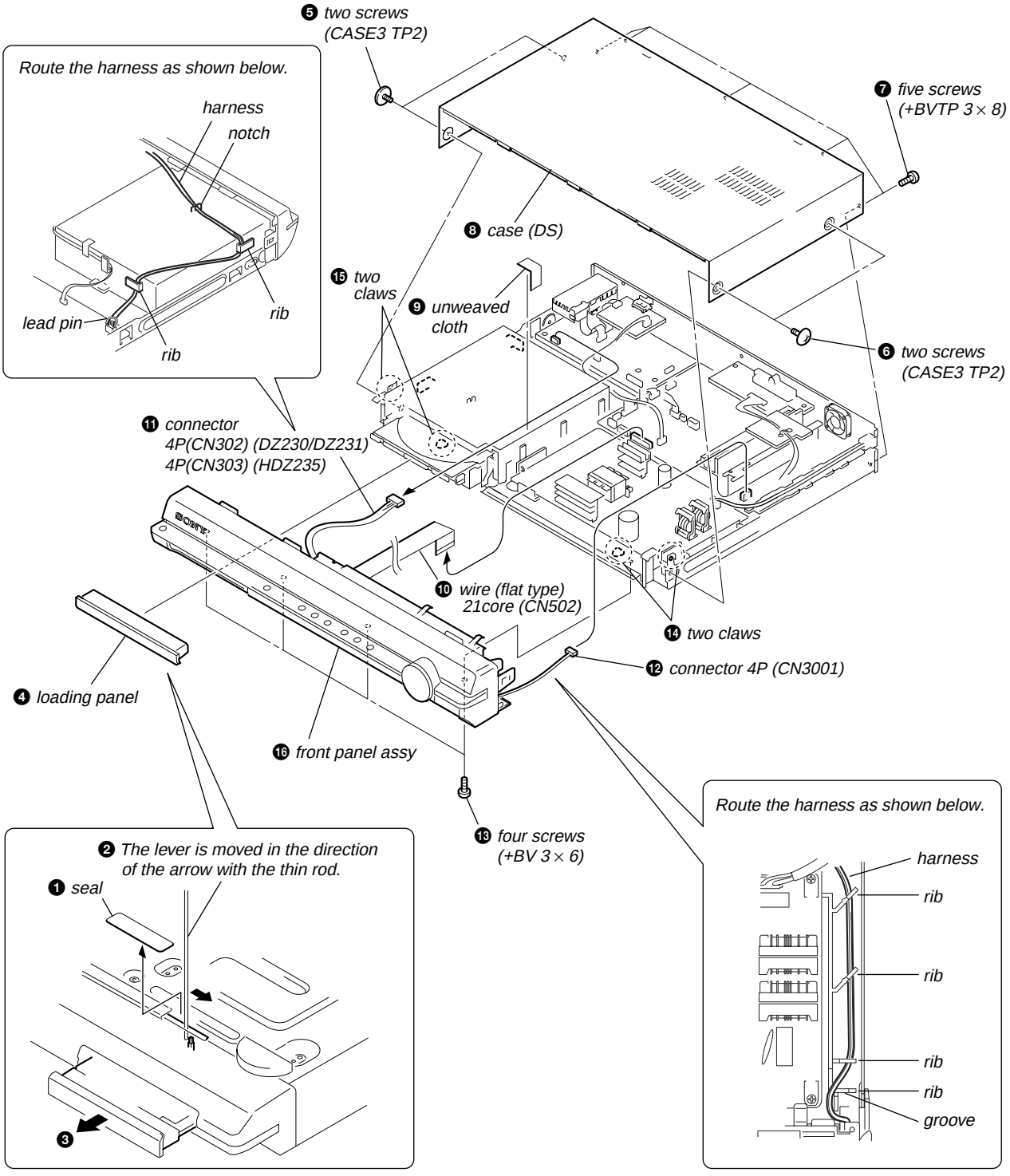
3-1. DISASSEMBLY FLOW

- This set can be disassembled in the order shown below.

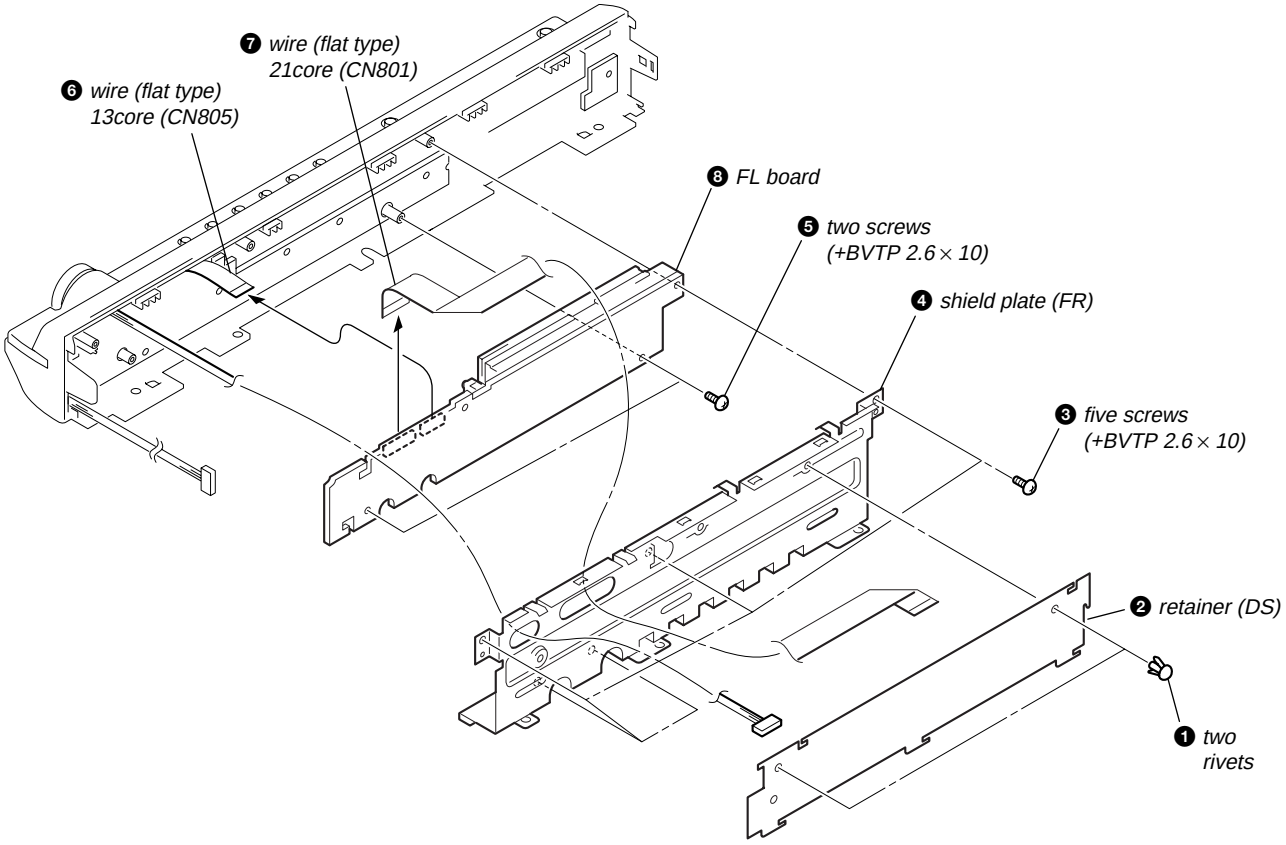

SET
3-2. CASE (DS), FRONT PANEL ASSY (Page 13)
3-3. FL BOARD (Page 14)
3-5. DMPORT BOARD (DZ230/DZ231), TUNER (FM/AM) (Page 15)
3-11. DVD MECHANISM DECK (CDM85-DVBU102) (Page 19)
3-9. SPEAKER BOARD, D.C. FAN (Page 17)
3-4. JACK BOARD, P-SW BOARD (Page 15)
3-6. IO-SCART BOARD (DZ230/DZ231) (Page 16)
3-7. IO-S-OUT BOARD (HDZ235) (Page 16)
3-10. MAIN BOARD (Page 18)
3-12. TRAY (Page 19)
3-8. POWER BOARD (Page 17)
3-14. OPTICAL PICK-UP (KHM-313CAA) (Page 21)
3-13. BELT, MS-203 BOARD (Page 20)

Note: Follow the disassembly procedure in the numerical order given.

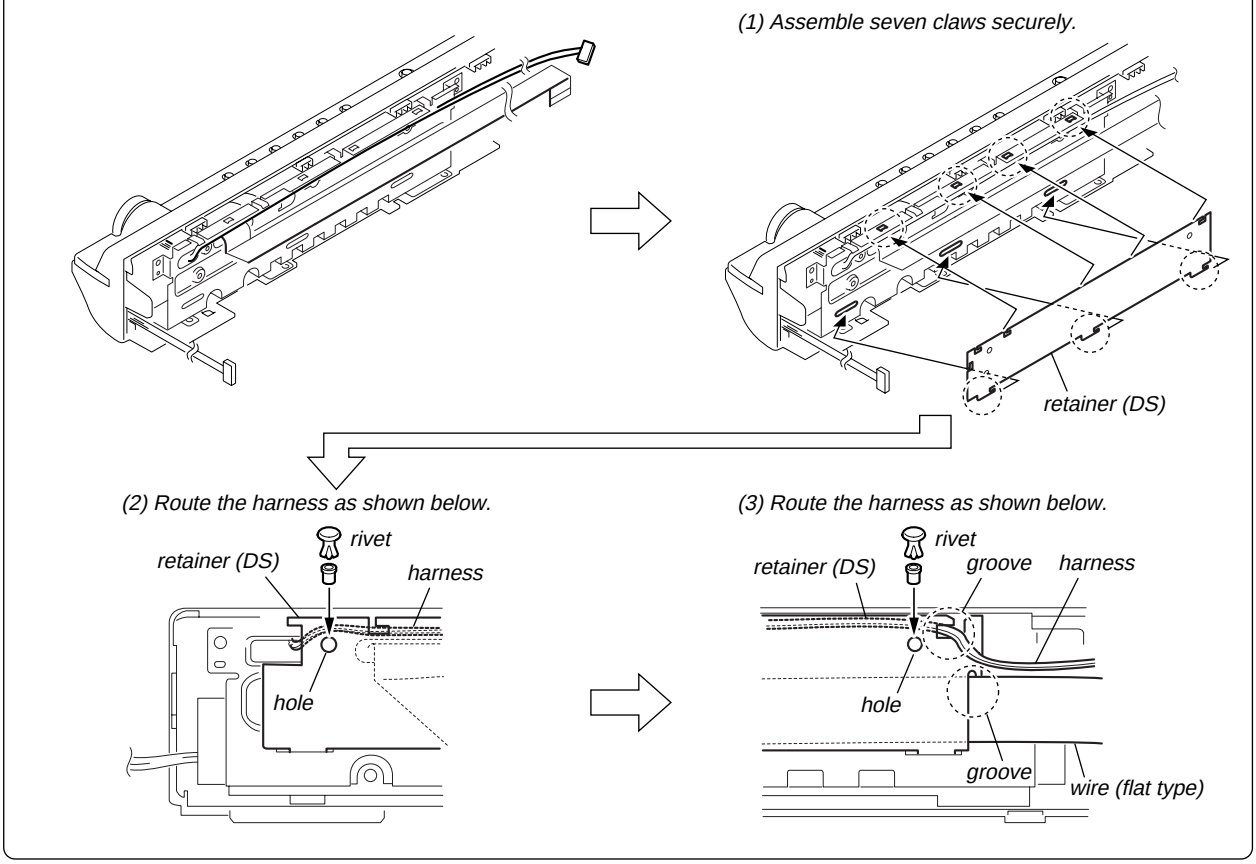
3-2. CASE (DS), FRONT PANEL ASSY



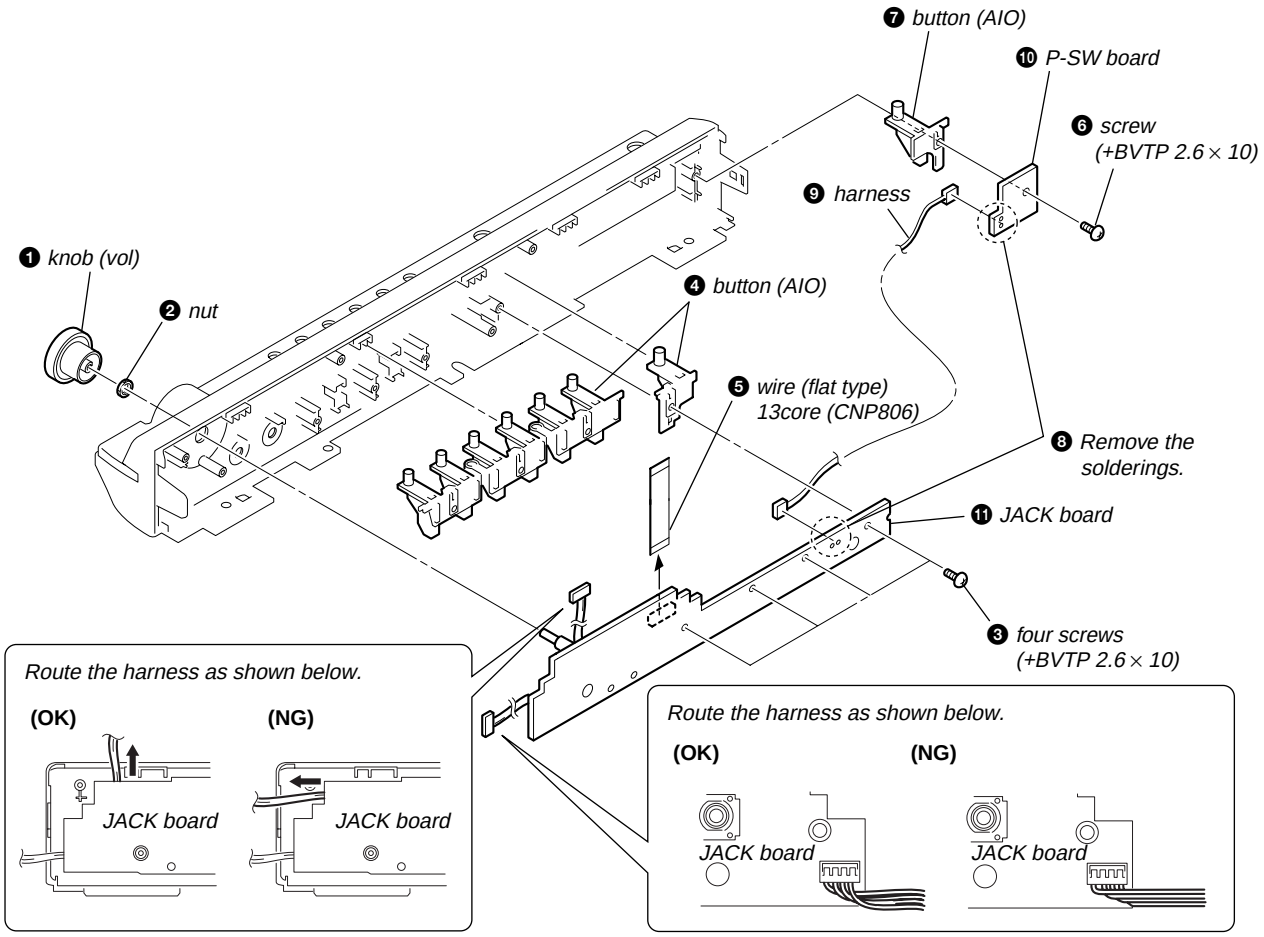
3-3. FL BOARD



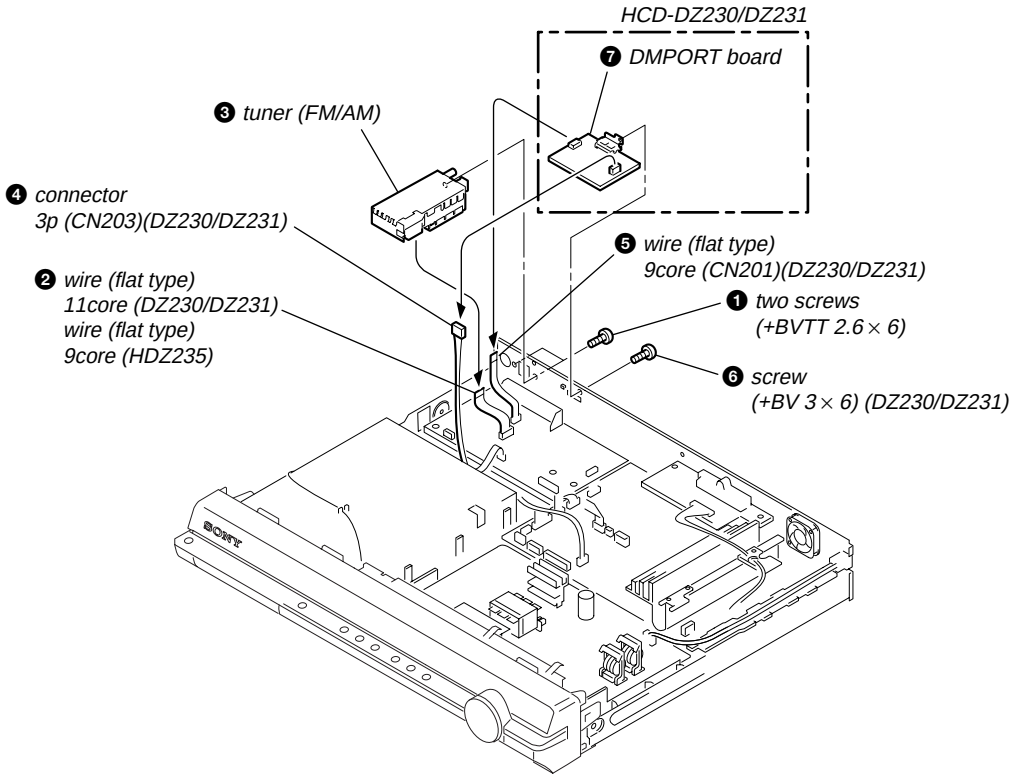
PRECAUTION DURING THE RETAINER (DS) INSTALLATION



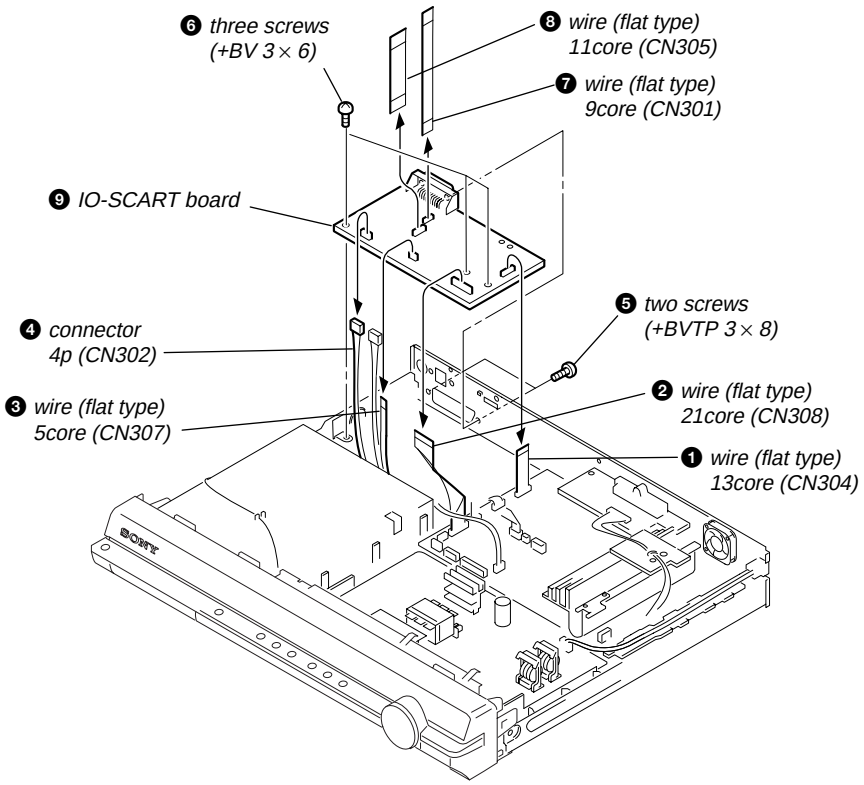
3-4. JACK BOARD, P-SW BOARD



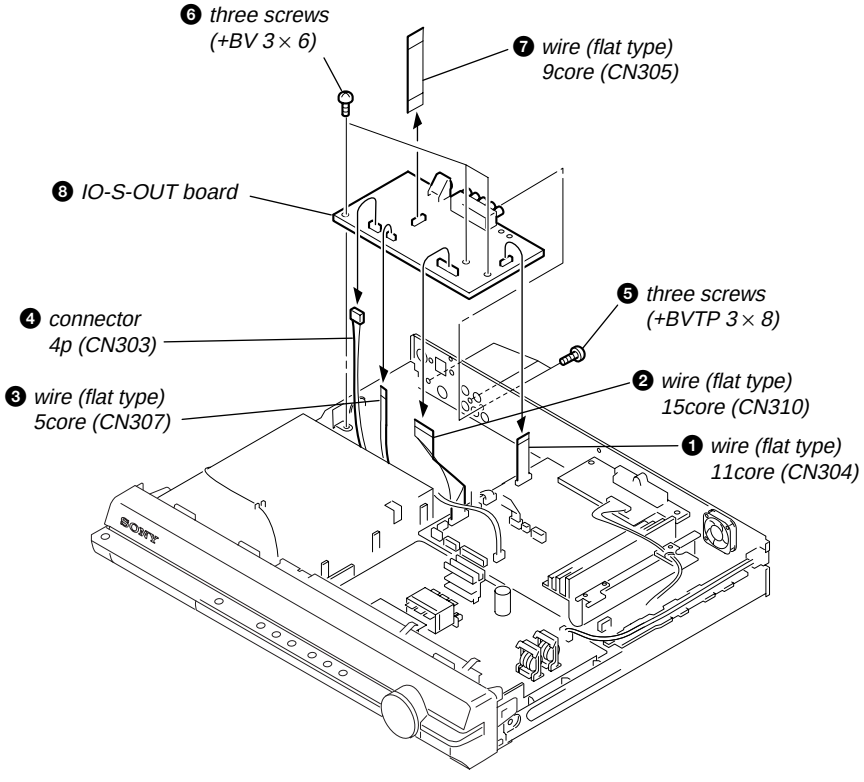
3-5. DMPORT BOARD (DZ230/DZ231), TUNER (FM/AM)


HCD-DZ230/DZ231
❼ DMPORT board
❸ tuner (FM/AM)
❹ connector 3p (CN203)(DZ230/DZ231)
❷ wire (flat type) 11core (DZ230/DZ231) wire (flat type) 9core (HDZ235)
❺ wire (flat type) 9core (CN201)(DZ230/DZ231)
❶ two screws (+BVTT 2.6 × 6)
❻ screw (+BV 3 × 6) (DZ230/DZ231)

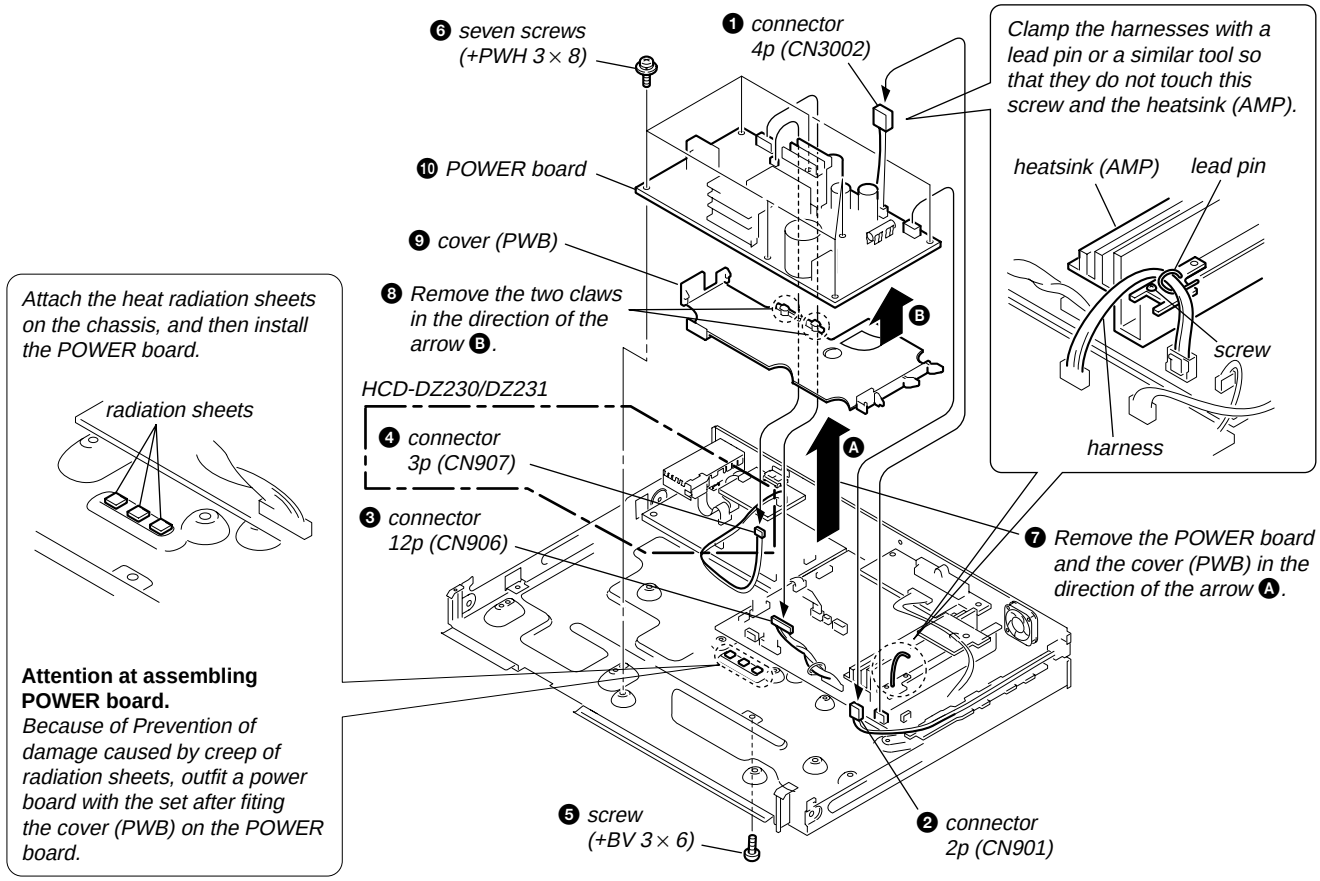
3-6. IO-SCART BOARD (DZ230/DZ231)


❻ three screws (+BV 3× 6)
❽ wire (flat type) 11core (CN305)
❼ wire (flat type) 9core (CN301)
❾ IO-SCART board
❺ two screws (+BVTP 3× 8)
❹ connector 4p (CN302)
❷ wire (flat type) 21core (CN308)
❸ wire (flat type) 5core (CN307)
❶ wire (flat type) 13core (CN304)

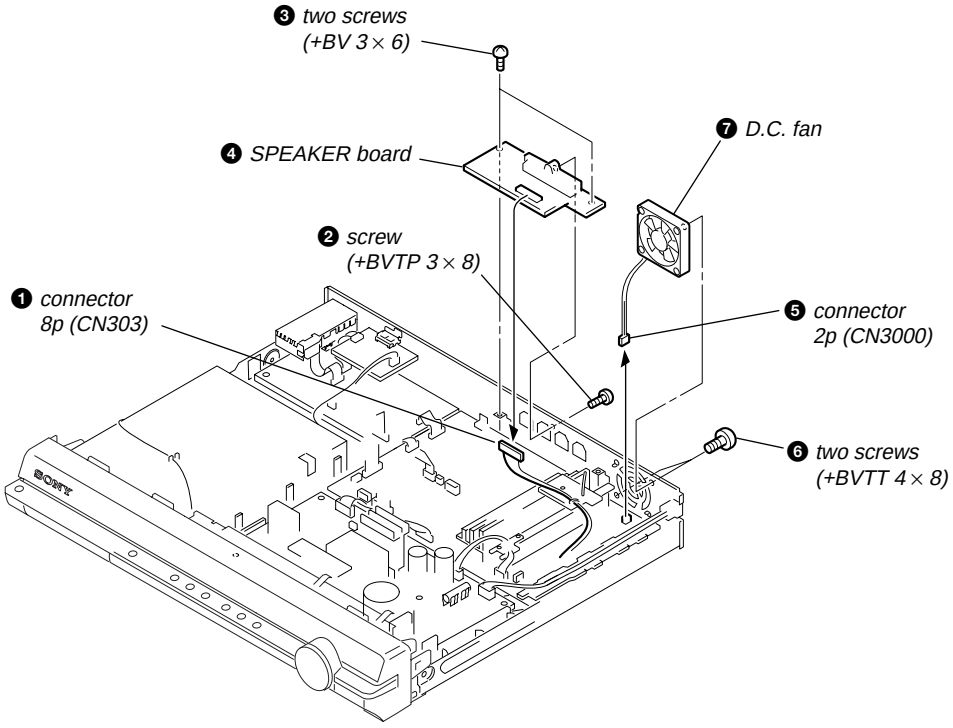
3-7. IO-S-OUT BOARD (HDZ235)


❻ three screws (+BV 3× 6)
❼ wire (flat type) 9core (CN305)
❽ IO-S-OUT board
❺ three screws (+BVTP 3× 8)
❹ connector 4p (CN303)
❷ wire (flat type) 15core (CN310)
❸ wire (flat type) 5core (CN307)
❶ wire (flat type) 11core (CN304)

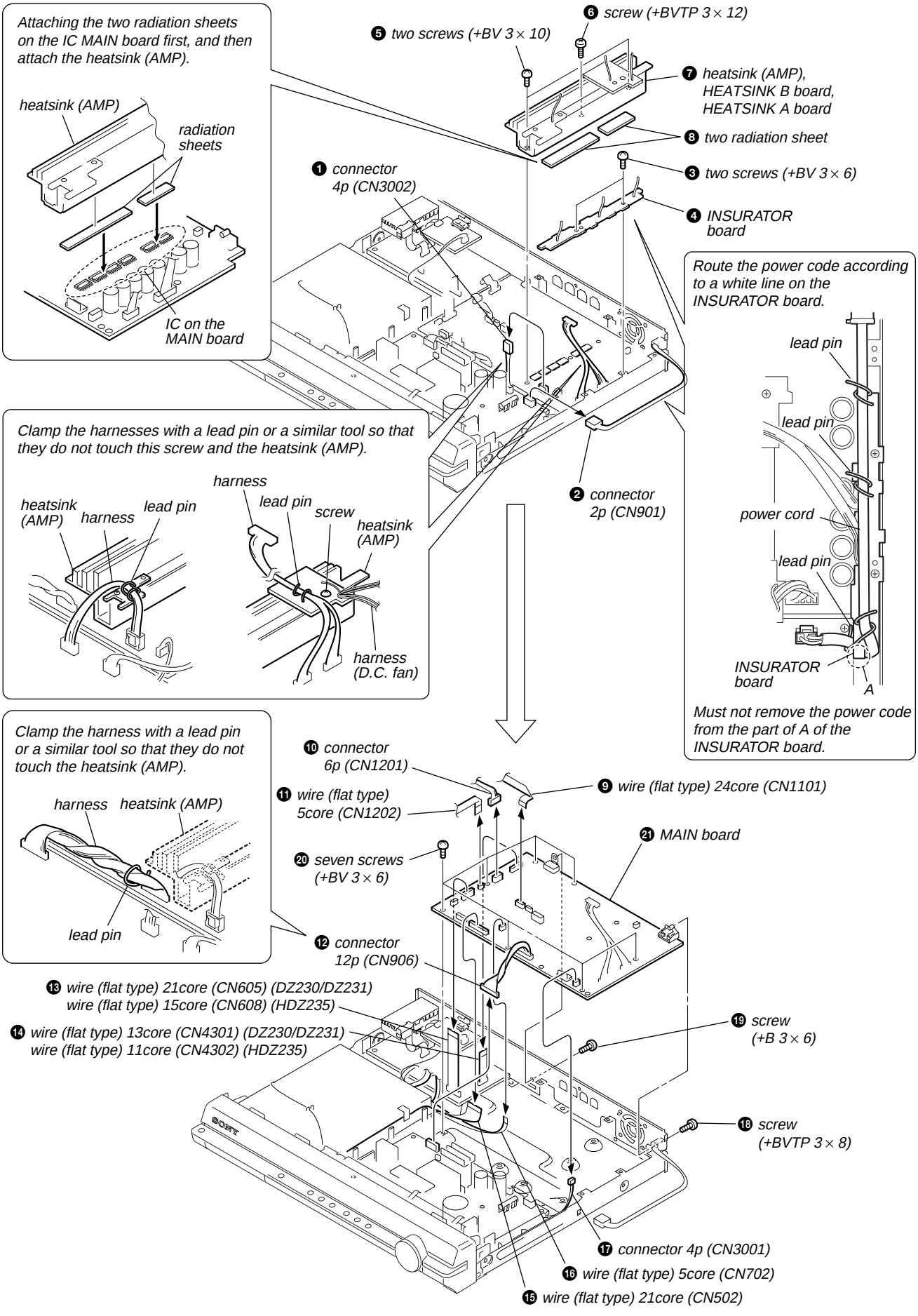
3-8. POWER BOARD


❻ seven screws (+PWH 3× 8)
❶ connector 4p (CN3002)
Clamp the harnesses with a lead pin or a similar tool so that they do not touch this screw and the heatsink (AMP).
heatsink (AMP)
lead pin
screw
harness
❿ POWER board
❾ cover (PWB)
❽ Remove the two claws in the direction of the arrow ❷.
Attach the heat radiation sheets on the chassis, and then install the POWER board.
radiation sheets
HCD-DZ230/DZ231
❹ connector 3p (CN907)
❸ connector 12p (CN906)
❼ Remove the POWER board and the cover (PWB) in the direction of the arrow ❶.
Attention at assembling POWER board.
Because of Prevention of damage caused by creep of radiation sheets, outfit a power board with the set after fiting the cover (PWB) on the POWER board.
❺ screw (+BV 3× 6)
❷ connector 2p (CN901)

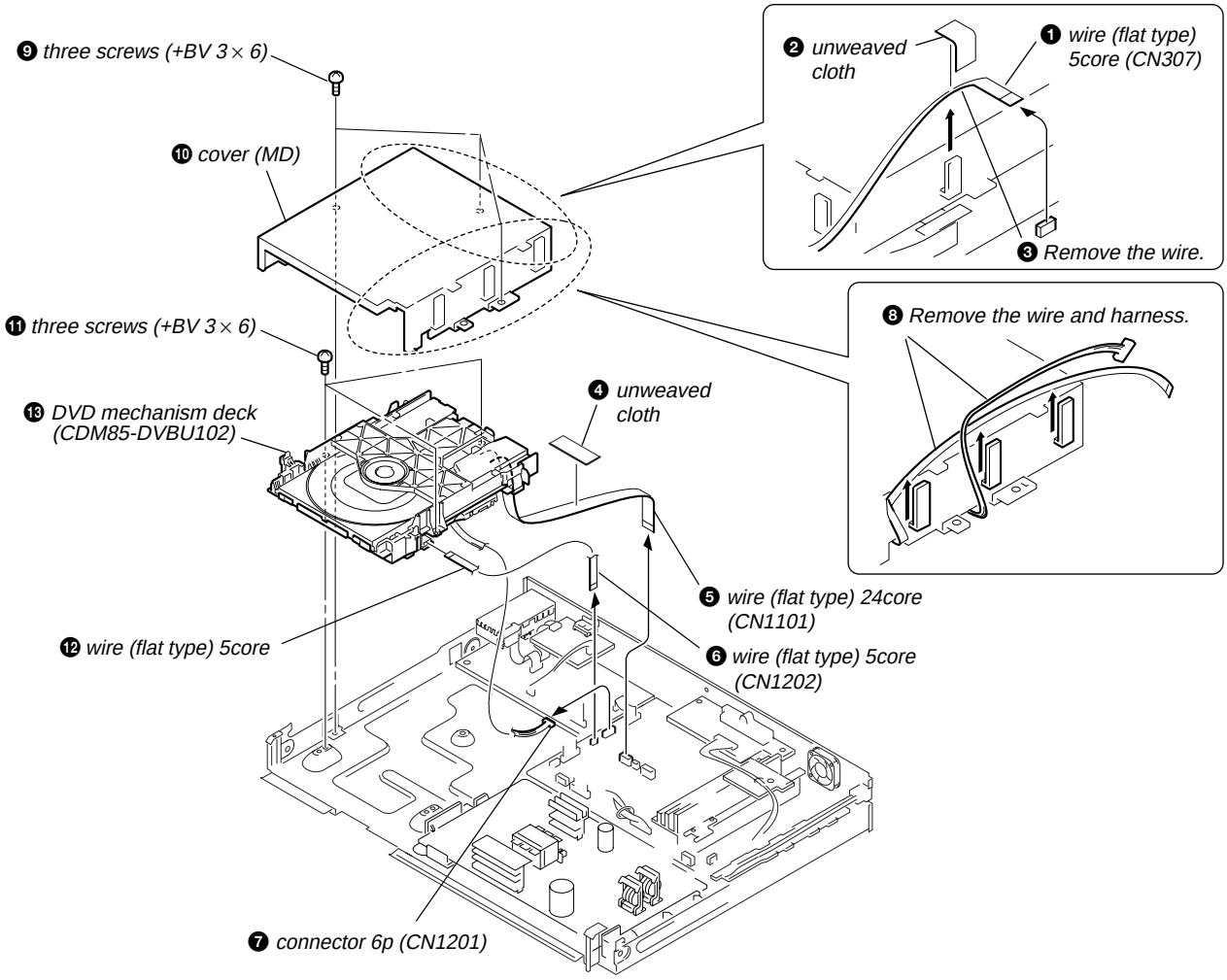
3-9. SPEAKER BOARD, D.C. FAN



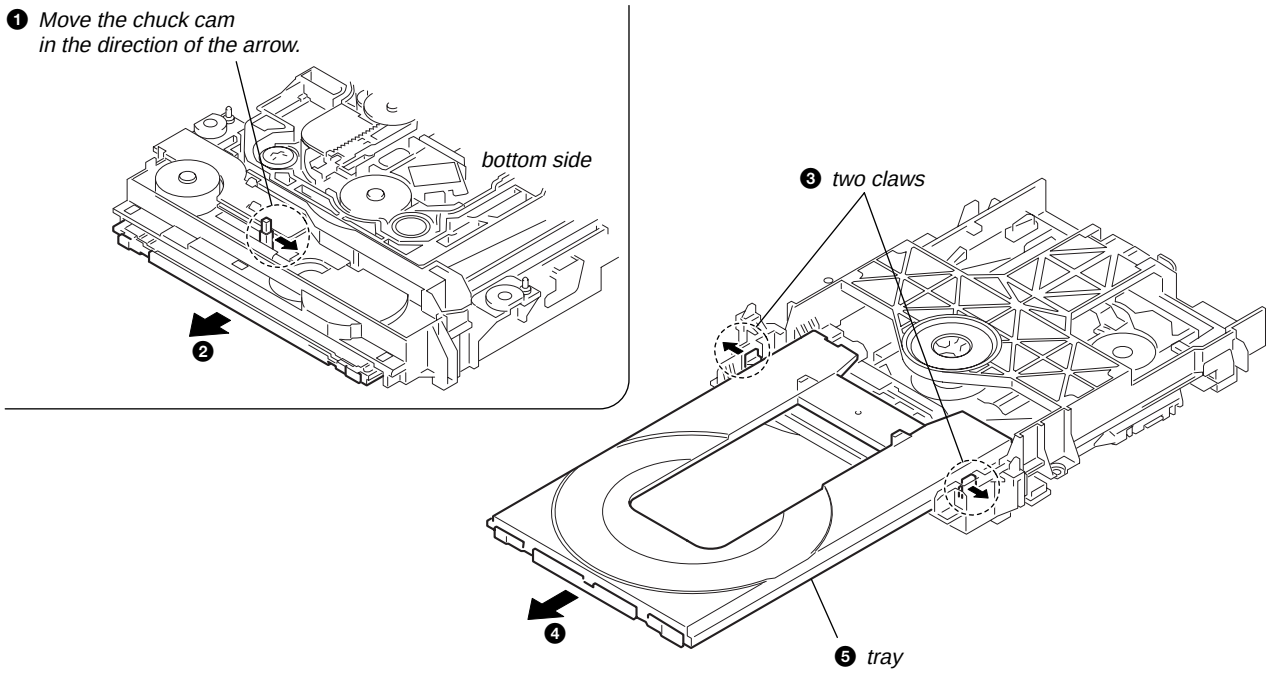
3-10. MAIN BOARD


Attaching the two radiation sheets on the IC MAIN board first, and then attach the heatsink (AMP).
heatsink (AMP)
radiation sheets
IC on the MAIN board
❻ screw (+BVTP 3× 12)
❺ two screws (+BV 3× 10)
❼ heatsink (AMP), HEATSINK B board, HEATSINK A board
❽ two radiation sheet
❸ two screws (+BV 3× 6)
❶ connector 4p (CN3002)
❹ INSURATOR board
❷ connector 2p (CN901)
Route the power code according to a white line on the INSURATOR board.
lead pin
lead pin
power cord
lead pin
INSURATOR board
A
Must not remove the power code from the part of A of the INSURATOR board.
Clamp the harnesses with a lead pin or a similar tool so that they do not touch this screw and the heatsink (AMP).
heatsink (AMP)
harness
lead pin
harness
lead pin
screw
heatsink (AMP)
harness (D.C. fan)
Clamp the harness with a lead pin or a similar tool so that they do not touch the heatsink (AMP).
harness
heatsink (AMP)
lead pin
❿ connector 6p (CN1201)
⓫ wire (flat type) 5core (CN1202)
❾ wire (flat type) 24core (CN1101)
㉑ MAIN board
⓴ seven screws (+BV 3× 6)
⓬ connector 12p (CN906)
⓭ wire (flat type) 21core (CN605) (DZ230/DZ231)
wire (flat type) 15core (CN608) (HDZ235)
⓮ wire (flat type) 13core (CN4301) (DZ230/DZ231)
wire (flat type) 11core (CN4302) (HDZ235)
⓳ screw (+B 3× 6)
⓲ screw (+BVTP 3× 8)
⓱ connector 4p (CN3001)
⓰ wire (flat type) 5core (CN702)
⓯ wire (flat type) 21core (CN502)

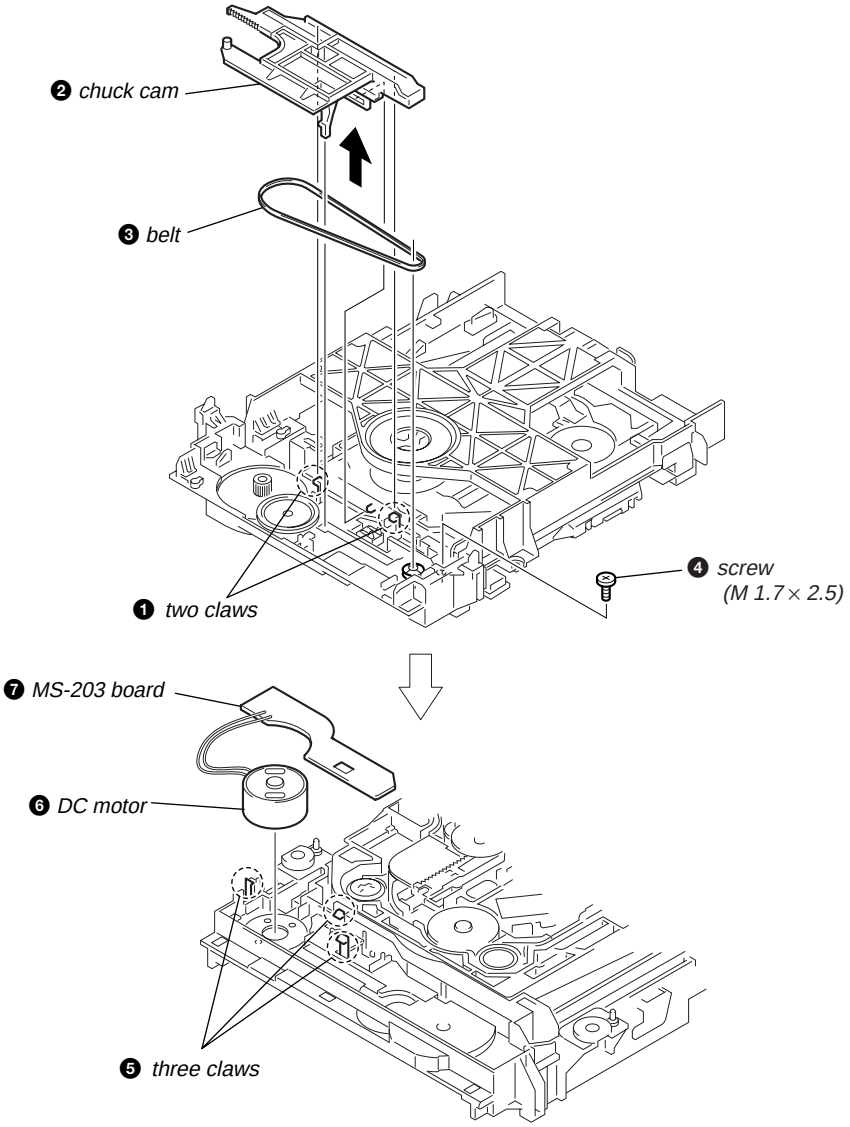
3-11. DVD MECHANISM DECK (CDM85-DVBU102)


❾ three screws (+BV 3× 6)
❿ cover (MD)
⓫ three screws (+BV 3× 6)
⓭ DVD mechanism deck (CDM85-DVBU102)
❹ unweaved cloth
❺ wire (flat type) 24core (CN1101)
❻ wire (flat type) 5core (CN1202)
⓬ wire (flat type) 5core
❼ connector 6p (CN1201)
❷ unweaved cloth
❶ wire (flat type) 5core (CN307)
❸ Remove the wire.
❽ Remove the wire and harness.

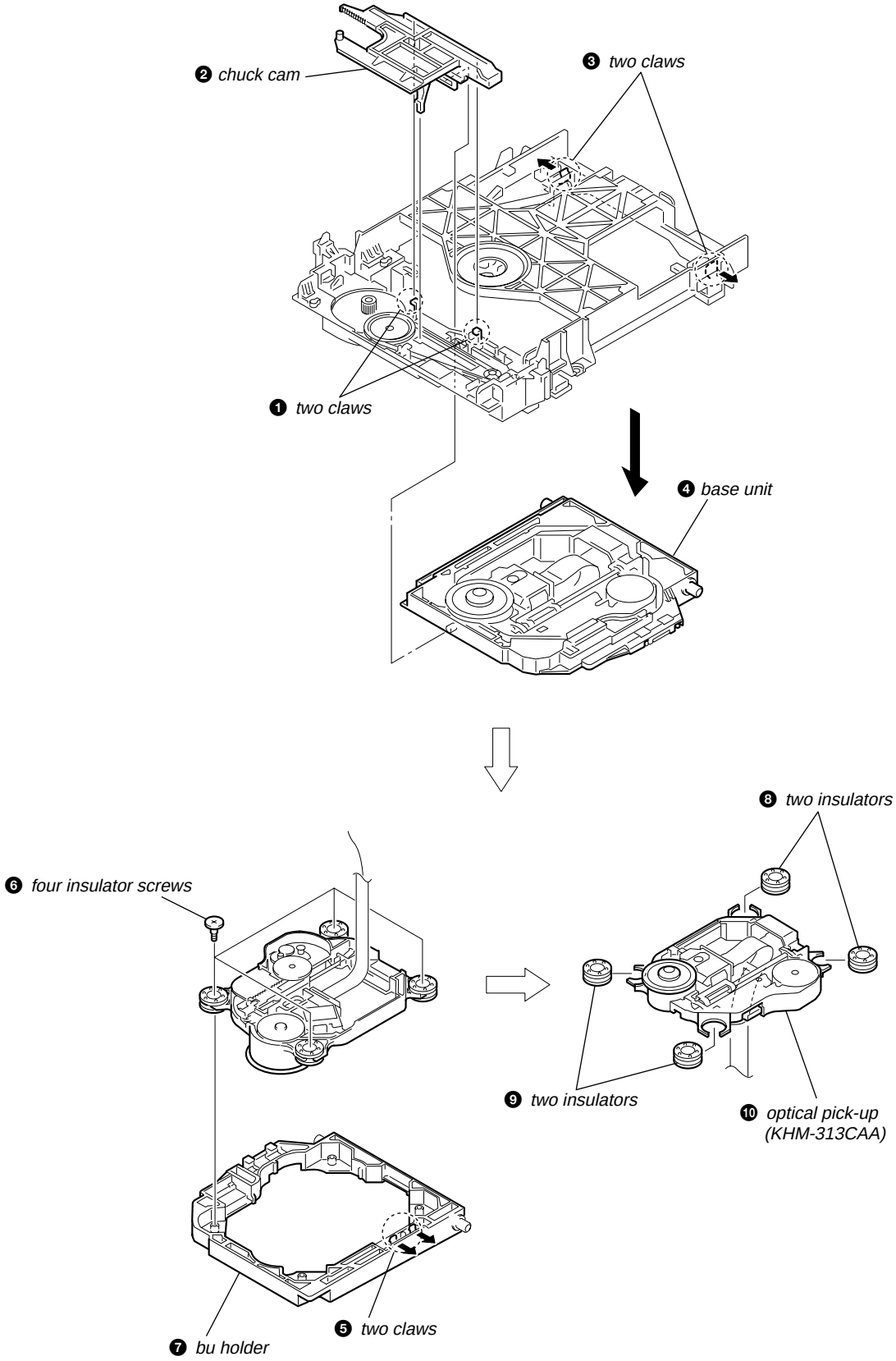
3-12. TRAY



3-13. BELT, MS-203 BOARD



3-14. OPTICAL PICK-UP (KHM-313CAA)



SECTION 4
TEST MODE

Note: Incorrect operations may be performed if the test mode is not entered properly.
In this case, press the I/⏻ button to turn the power off, and retry to enter the test mode.

1. Cold Reset

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customers.

Procedure:

1. Press the I/⏻ button to turn the power on.
2. Press three buttons ■ , ⏏ and I/⏻ simultaneously.
3. When this button is operated, display as "COLD RESET" for a while and all of the settings are reset.

2. Panel Test Mode

- This mode is used to check the software version, FL, LED and KEY.

2-1. Display Test Mode

Procedure:

1. Press the I/⏻ button to turn the power on.
2. Press three buttons ❚❚, ⏮ and ⏏ simultaneously.
3. When the display test mode is activated, all segments are turned on.
4. To exit from this mode, press three buttons ❚❚, ⏮ and ⏏ simultaneously.

2-2. Version Test Mode

Procedure:

1. When the display test mode is activated, press the ⏮ button and the message "DS2" (DZ230/DZ231), "DS2+" (HDZ235) are displayed, the version test mode is activated.
2. Whenever the ⏮ button is pressed, the display changes in the following order.
   "DS2" (Model name) → "CE2*1" (Destination) → MC
   *1: CE2 changes depending on destination.
3. Press the ⏭ button and the date of the software production is displayed.
4. Press the ⏭ button again and the version is displayed.
5. To exit from this mode, press three buttons ❚❚, ⏮ and ⏏ simultaneously.

2-3. Key Test Mode

Procedure:

1. When the display test mode is activated, press the ▷ button, to select the key test mode.
2. To enter the KEY test mode, the fluorescent indicator displays "K0 V0". Each time an another button is pressed, "KEY" value increases. However, once a button is pressed, it is no longer taken into account. When all keys are pressed correctly, "K8 V0" is displayed.
3. When the VOLUME control is turned in the direction of (+), "V0" is changed to "V1", then ... "V9".
   When the VOLUME control is turned in the direction of (–), "V0" is changed to "V9", then ... "V1".
4. To exit from this mode, press three buttons ❚❚, ⏮ and ⏏ simultaneously.

3. Disc Tray Lock

The disc tray lock function for the antitheft of an demonstration disc in the store is equipped.

Setting Procedure :

1. Press the I/⏻ button to turn the set on.
2. Press the FUNCTION button to set DVD function.
3. Insert a disc.
4. Press the ■ button and the ⏏ button simultaneously for five seconds.
5. The message "LOCKED" is displayed and the tray is locked.

Releasing Procedure :

1. Press the ■ button and the ⏏ button simultaneously for five seconds again.
2. The message "UNLOCKED" is displayed and the tray is unlocked.

Note: When "LOCKED" is displayed, the tray lock is not released by turning power on/off with the I/⏻ button.

4. DVD Ship Mode

Use this mode when returning the set to the customer after repair.

Procedure:

1. Press the I/⏻ button to turn the set on.
2. Press the FUNCTION button to set the function "DVD".
3. Remove all discs, and then press two buttons ▷ and I/⏻ simultaneously.
4. After a message "MECHA LOCK" is displayed on the fluorescent indicator tube, pull out the AC plug.
5. To exit from this mode, press the I/⏻ button to turn the set on.

5. AM Step Change

- A step of AM channels can be changed over between 9 kHz and 10 kHz.

Procedure:

1. Press the I/⏻ button to turn the set ON.
2. Select the function "TUNER", and press FUNCTION button to select the BAND "AM".
3. Press the I/⏻ button to turn the set OFF.
4. Press two buttons ⏭ and I/⏻ simultaneously, and the display of fluorescent indicator tube changes to "AM 9k STEP" or "AM 10k STEP", and thus the channel step is changed over.

6. Product Out

This mode moves the optical pick-up to the position durable to vibration and clears all data including preset data stored in the RAM to initial conditions. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press the I/⏻ button to turn the power on.
2. Press the FUNCTION button to set the function "DVD".
3. Remove all discs, and then press three buttons ⏭, ⏏ and I/⏻ simultaneously.
4. After the "STANDBY" blinking display finishes, the message "MECHA LOCK" is displayed on the fluorescent indicator tube disconnect the AC power plug, then the ship mode is set.

DVD SECTION

7-1. GENERAL DESCRIPTION

The IOP measurement allows you to make diagnosis and adjustment simply by using the remote commander and monitor TV. The instructions, diagnosis results, etc. are given on the on-screen display (OSD).
Be sure to execute the IOP measurement when a BU (Base Unit) is replaced.

7-2. HOW TO ENTER TEST MODE

While pressing the ■ and ⏏ buttons simultaneously, turn VOLUME control in the direction of (+) with the DVD player in power on.
The Test Mode starts, displayed "SERVICE IN" on this model display then the menu shown below will be displayed on the TV screen.

* The display of the "Model Name" of the "Remocon Diagnosis Menu" change with the model and the destination. Refer to below on the model name.
DZ230/231 : DS2
HDZ235 : DS2PLUS

```
        Remocon Diagnosis Menu

0. External Chip Check
1. Servo Parameter Check
2. Drive Manual Operation
3. Emergency History
4. Version Information


Model Name : DS2_ XX  *1
IF-con     : Ver. XX.XX (XXXX)
Syscon     : Ver. X.XXX
```

*1: Changes depending on destination

The menu above is the Remocon Diagnosis Menu screen which consists of five main functions. At the bottom of the menu screen, the model name and IF-con version. To exit from the Test Mode, press the power button on the remote commander.

7-3. EXECUTING IOP MEASUREMENT

In order to execute IOP measurement, the following standard procedures must be followed.

(1) In power on, while pressing the ■ and ⏏ buttons simultaneously, turn the VOLUME control in the direction of (+).

```
        Remocon Diagnosis Menu

0. External Chip Check
1. Servo Parameter Check
2. Drive Manual Operation
3. Emergency History
4. Version information


Model Name : DS2_ XX  *1
IF-con     : Ver. XX.XX (XXXX)
Syscon     : Ver. X.XXX
```

*1: Changes depending on destination

(2) Select "2. Drive Manual Operation" by pressing the 2 button on the remote commander. The screen will appear as shown.

```
        Drive Manual Operation

1. Servo Control
2. Track/Layer Jump
3. Manual Adjustment
4. Tray Aging Mode
5. MIRR time adjust
0. Return to Top Menu
```

(3) Select "3. Manual Adjustment" by pressing the 3 button on the remote commander. The screen will appear as shown.

```
          Manual Adjust

1. Track Balance Adjust:
2. Track Gain Adjust:
3. Focus Balance Adjust:
4. Focus Gain Adjust:
5. Eq Boost Adjust:
6. Iop:
7. TRV. Level:
8. S curve(FE) Level:
9. RFL(PI) Level:
0. MIRR Time:

↑↓ Change Value
[RETURN] Return to previous menu
```

(4) Select "6.IOP" by pressing the 6 button on the remote commander.

(5) Wait until a hexadecimal number appear.

```
          Manual Adjust

1. Track Balance Adjust:
2. Track Gain Adjust:
3. Focus Balance Adjust:
4. Focus Gain Adjust:
5. Eq Boost Adjust:
6. Iop.(5B:)
7. TRV. Level:
8. S curve(FE) Level:
9. RFL(PI) Level:
0. MIRR Time:

↑↓ Change Value
[RETURN] Return to previous menu
```

(6) Convert each data from hexadecimal to decimal using conversion table.

(7) Please find the label on the rear of the BU (Base Unit). The default IOP value is written in the label.

(8) Subtract between these two values.

(9) If the remainder is smaller than 93 (decimal), then it is OK. However if the value is higher than 93, then the BU is defective and need to be change.

(10) Press the RETURN button on the remote commander to return back to previous menu.

(11) Press the 0 button on the remote commander to return to Top Menu.

7-4. EMERGENCY HISTORY

To check the emergency history, please follow the following procedure.

(1) From the Top Menu of Remocon Diagnosis Menu, select "3. Emergency History Check" by pressing the 3 button on the remote commander. The following screen appears on the on-screen display.

```
                Emg. History Check

Laser Hours        CD     999h        59min
                   DVD    999h        59min

01.  01  05  04  04       00  92  46  00
     00  00  00  00       00  00  23  45
02.  02  02  01  01       00  A9  4B  00
     00  00  00  00       00  00  23  45

[Next]   Next Page    [Prev]  Prev Page
[O]  Return to Top Menu
```

(2) You can check the total time when the laser is turned on during playback of DVD and CD from the above menu. The maximum time, which can be displayed are 999h 59min.

(3) You can check the error code of latest 10 emergency history from the above menu. To view the previous or next page of emergency history, press ⏮ or ⏭ button on the remote commander. The error code consists of the following three blocks. The first block indicates the error code. The second block indicates the parameter and the third block indicates the time of error code as shown below.

• Error Code

```
                Emg. History Check

Laser Hours        CD     999h        59min
                   DVD    999h        59min

     *1  *2
01.  01  05  04  04       00  92  46  00
     00  00  00  00       00  00  23  45 *3
02.  02  02  01  01       00  A9  4B  00
     00  00  00  00       00  00  23  45

[Next]   Next Page    [Prev]  Prev Page
[O]  Return to Top Menu
```

*1 : Error Code
*2 : Parameter of error code
*3 : Time of error code

The meaning of error code is as below:

01: Communication error (No reply from syscon)
02: Syscon hung up
03: Power OFF request when syscon hung up
19: Thermal shutdown
24: MoveSledHome error
25: Mechanical move error (5 Changer)
26: Mechanical move stack error
30: DC motor adjustment error
31: DPD offset adjustment error
32: TE balance adjustment error
33: TE sensor adjustment error
34: TE loop gain adjustment error
35: FE loop gain adjustment error
36: Bad jitter after adjustment
40: Focus NG
42: Focus layer jump NG
52: Open kick spindle error
51: Spindle stop error
60: Focus on error
61: Seek fail error
62: Read Q data/ID error
70: Lead in data read fail
71: TOC read time out (CD)
80: Can't buffering
81: Unknown media type

7-4-1. Clear the Laser Hour

Press DISPLAY button and then press CLEAR button on the remote commander. The data for both CD and DVD data are reset.

```
                Emg. History Check

Laser Hours        CD     0h          0min
                   DVD    0h          0min

01.  01  05  04  04       00  92  46  00
     00  00  00  00       00  00  23  45
02.  02  02  01  01       00  A9  4B  00
     00  00  00  00       00  00  23  45

[Next]   Next Page    [Prev]  Prev Page
[O]  Return to Top Menu
```

7-4-2. Clear the Emergency History

Press DVD TOP MENU button and then press CLEAR button on the remote commander. The error code for all emergency history would be reset.

```
                Emg. History Check

Laser Hours        CD     999h        59min
                   DVD    999h        59min

01.  00  00  00  00       00  00  00  00
     00  00  00  00       00  00  00  00
02.  00  00  00  00       00  00  00  00
     00  00  00  00       00  00  00  00

[Next]   Next Page    [Prev]  Prev Page
[O]  Return to Top Menu
```

7-4-3. Clear the Initialize Setup Data

Press DVD MENU button and then press CLEAR button on the remote commander.

```
                Emg. History Check

Laser Hours        CD     999h        59min
                   DVD    999h        59min

                initialize setup data...




[Next]   Next Page    [Prev]  Prev Page
[O]  Return to Top Menu
```

7-4-4. Return to the Top Menu of Remocon Diagnosis Menu

Press [0] button on the remote commander.

• Check Version Information

To check the version information, please follow the following procedure.

(1) From the Top Menu of Remocon Diagnosis Menu, select "4. Version Information" by pressing the [4] button on the remote commander. The following screen appears on the on-screen display.

```
Version information

Firm (Main) :  Ver. xxxxx
Firm (Sub) :  xxxxx
RISC :  xxxxx
8032 :  xxxxx
Audio DSP :  xxxxx
Servo DSP :  xxxxx

[0]  Return to Top Menu
```

To return to the Top Menu of Remocon Diagnosis Menu, press [0] button on the remote commander.

7-5. AUTOMATIC ACOUSTIC FIELD CALIBRATION MICROPHONE TEST MODE

Procedure:

1. Press the [I/⏻] button to turn the power on.
2. Press the [FUNCTION] button to to set the function " DVD".
3. Insert ECM-AC2 supplied as an accessory into the AUDIO IN/A.CAL MIC jack.
4. While pressing the [II] and [⏏] buttons simultaneously, turn the [VOLUME] control in the direction of (+) .
5. Confirm that the following are shown on the display panel.
   ① The JACK inserted/non-inserted detection display and the STEREO/MONO detection display.
   ② Presence of DIGITAL voice input to the microcomputer. (OK: input, NG: no input)
   ③ The value of the MIC input to the microcomputer. (shown "255h")

```
 ***     *  *     ***
  ①       ②       ③

① "NON" : Not detected
   "ST"  : STEREO
   "MN"  : MONO

② OK : input
   NG : no input

③ 0-255 (Changes in real time)
```

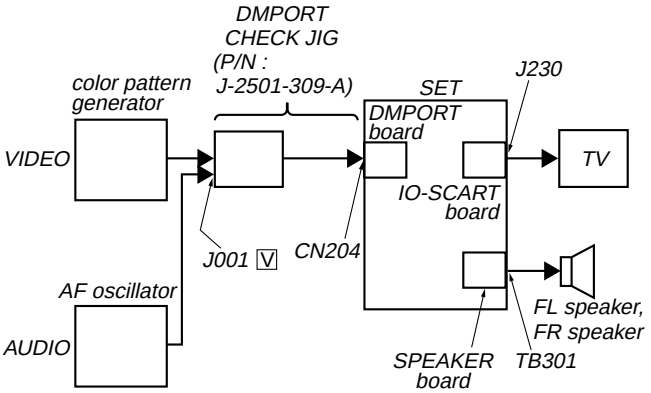
8. DEMO PLAY OUT

It is a mode to release the demonstration reproduct by the dedicated demonstration disc.

1. During playback the DEMO Disc, press the [■] and [▷] buttons for five seconds simultaneously.
2. The message "DEMO OFF" is displayed, a mode to reproduct the demonstration is released.

9. DIGITAL MEDIA PORT TEST (DZ230/DZ231)

1. Connect the DMPORT CHECK JIG (P/N: J-2501-309-A) with the terminal DMPORT.
2. Press the [I/⏻] button to turn the power on.
3. Confirm that both LEDs of the DMPORT confirmation JIG lights. (Confirmation the power supply line.)
4. Set the [FUNCTION] button with "DMPORT" on this model.
5. Press the [II], [⏮] buttons and turn the [VOLUME] control in the direction of (+) simultaneously, the DMPORT test mode is activated.
6. It is confirmed that "DMPORT OK" is displayed on this set display. (Confirmation of communication line)
7. To a pinjack of the DMPORT confirmation JIG input information relevant to audio signal (sine-wave 1.0Vrms) and composite video signal (white 100% 1.0Vp-p, color bar, etc.)
8. Confirm the output of speakers and monitor TV. (Confirmation of analog signal)
9. To exit from this mode, press the [II], [⏮] buttons and turn the [VOLUME] control in the direction of (+).



10. DMPORT DEVICE TEST (DZ230/DZ231)

Procedure:

1. To enter this test mode, press the [■] , [FUNCTION] buttons and turn the [VOLUME] control in the direction of (+) simultaneously.
2. To exit from this test mode, press the [I/⏻] button to turn the power off.

11. PROTECTION FACTOR (SD DETECTION/ DC DETECTION) IDENTIFICATION TEST MODE

When an error is detected, the FL tube alternately displays "PROTECTOR ⇦⇨ PUSH POWER".

↓ Press the [I/⏻] button.
* Buttons other than the [I/⏻] button are invalid.

"STANDBY" blinks three times on the FL tube.

↓

The protection release state (POWER OFF) is established.
(No FL tube display)

↓ Press the [I/⏻] button.

The power to the system turns on, and the normal operation is established. (Restore)

During the protection state:

1. If the AC plug is connected or disconnected during the protection state, the protection state is released, and the normal operation is established. (The protection state is not maintained.)
2. The protection factor is displayed by pressing the [FUNCTION], [⏏] and [▶▶I] buttons at the same time during the protection state
   (during the "PROTECTOR ⇦⇨ PUSH POWER" display).
   ⇨ When SD is detected: Repeats
   "SD DETECT ⇦⇨ PUSH POWER".
   ⇨ When DC is detected: Repeats
   "DC DETECT ⇦⇨ PUSH POWER".

PL: SD detection

When the "L" output from the SD (shutdown) port on the S-MASTER POWER Driver is detected, the power system other than that of the FL tube is turned off, and the protection state is established.

DC detection

When the "L" output from the power/speaker error detection circuit (DC detection port) is detected for two seconds continually, the power system other than that of the FL tube is turned off, and the protection state is established.

SECTION 5
ELECTRICAL ADJUSTMENT

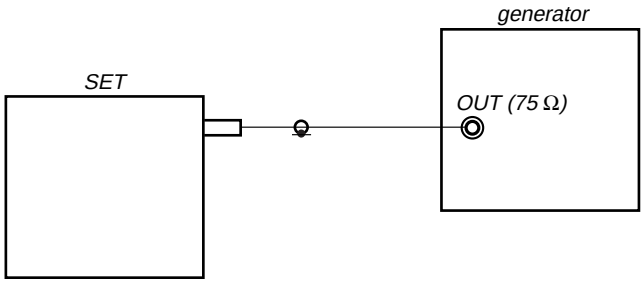
DVD SECTION

When the optical pick-up assy is replaced, perform the "EXECUTING IOP MEASUREMENT".

EXECUTING IOP MEASUREMENT (See page 23)

TUNER SECTION

[FM Tune Level Check]



Procedure:

1. Turn the power on.
2. Input the following signal from Signal Generator to FM antenna input directly.

* Carrier Freq : A = 87.5 MHz, B = 98 MHz, C = 108 MHz
Deviation : 75 kHz
Modulation : 1 kHz
ANT input : 35 dBu (EMF)

Note: Please use 75 ohm "coaxial cable" to connect SG and the set. You cannot use video cable for checking.
Please use SG whose output impedance is 75 ohm.

3. Set to FM tuner function and tune A, B and C signals.
4. Confirm "TUNED" is lit on the display for A, B and C signals.

The mark of "TUNED" means "The selected station signal is received in good condition."

SECTION 6
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For Schematic Diagrams.
Note:

- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- ▬ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages and waveforms are dc with respect to ground in service mode.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
  no mark : DVD STOP
  ∗ : Impossible to measure
- Voltages are taken with VOM (Input impedance 10 MΩ).
- Circled numbers refer to waveforms.
- Signal path.
  : AUDIO
  : CD PLAY
  : DVD PLAY
  : DMPORT
  : TUNER
  : VIDEO
  : Y
  : CHROMA
  : COMPONENT VIDEO
  : R, G, B
  : AUDIO IN
- Abbreviation
  CND : Canadian model

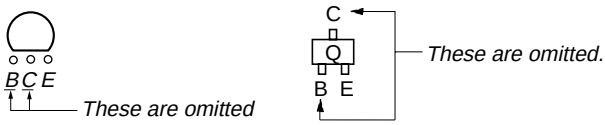
For Printed Wiring Boards.
Note:

- ○——— : parts extracted from the component side.
- ○ : Through hole.
- ▬ : Pattern from the side which enables seeing.

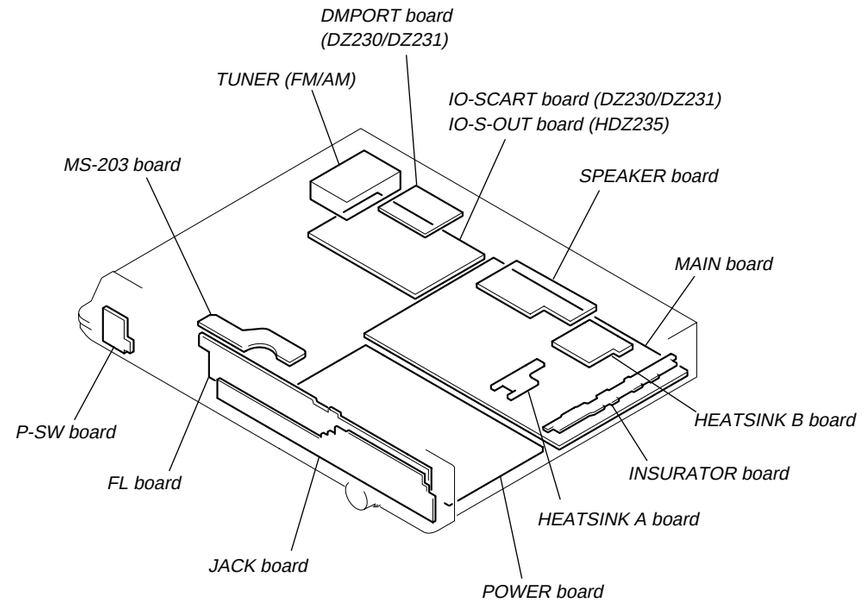
(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (SIDE B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (SIDE A)	Parts on the parts face side seen from the parts face are indicated.

- Indication of transistor.



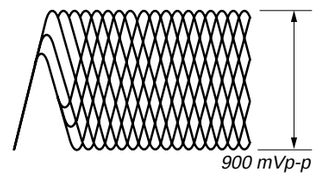
• Circuit Boards Location



• Waveforms

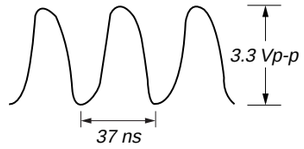
– MAIN Board –

① IC1101 ⑥ (DVDRFIP)



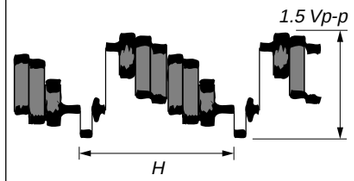
200 mV/DIV, 100 ns/DIV

② IC1101 ㉞ (XTALI)



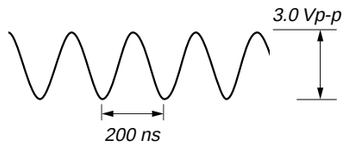
1 V/DIV, 10 ns/DIV

③ IC1101 ⑱ (CVBS)



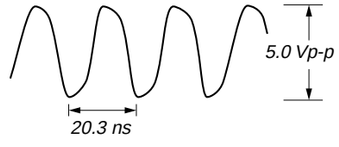
500 mV/DIV, 20 µs/DIV

④ IC501 ⑮ (XIN)



1 V/DIV, 100 ns/DIV

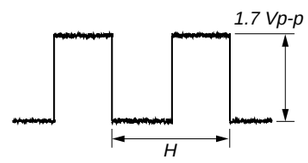
⑤ IC3010 ㊽ (XFSOIN)



1 V/DIV, 10 ns/DIV

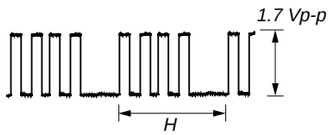
– IO-SCART Board (DZ230/DZ231) –

⑥ IC230 ㉔ (CYOUTa)



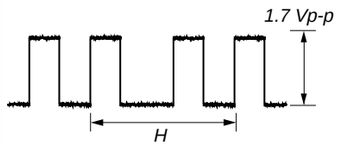
500 mV/DIV, 20 µs/DIV

⑦ IC230 ㉑ (CbOUTa)



500 mV/DIV, 20 µs/DIV

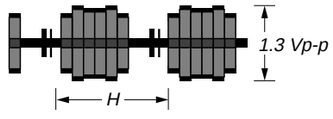
⑧ IC230 ⑱ (CrOUTa)



500 mV/DIV, 20 µs/DIV

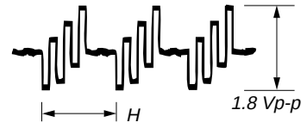
– IO-S-OUT Board (HDZ235) –

⑨ IC308 ㉖ (C OUT)



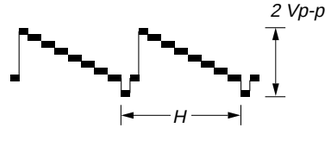
1 V/DIV, 20 µs/DIV

⑫ IC308 ⑱ (Cb OUT)



500 mV/DIV, 20 µs/DIV

⑩ IC308 ㉑ (Y OUT)

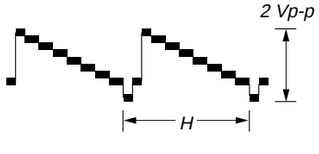


1 V/DIV, 20 µs/DIV

⑬ IC308 ⑯ (Cr OUT)

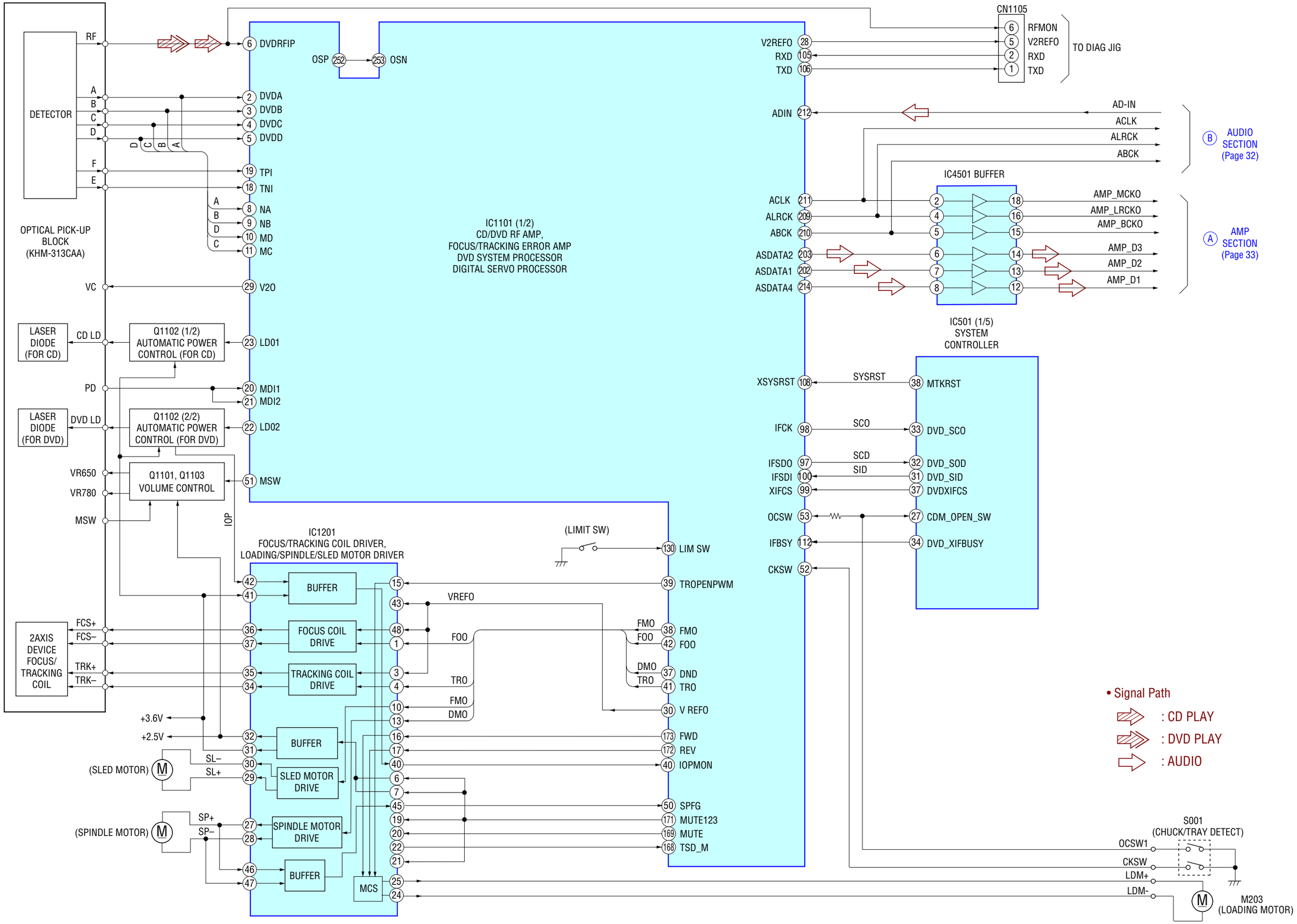
500 mV/DIV, 20 µs/DIV

⑪ IC308 ⑳ (CY OUT)

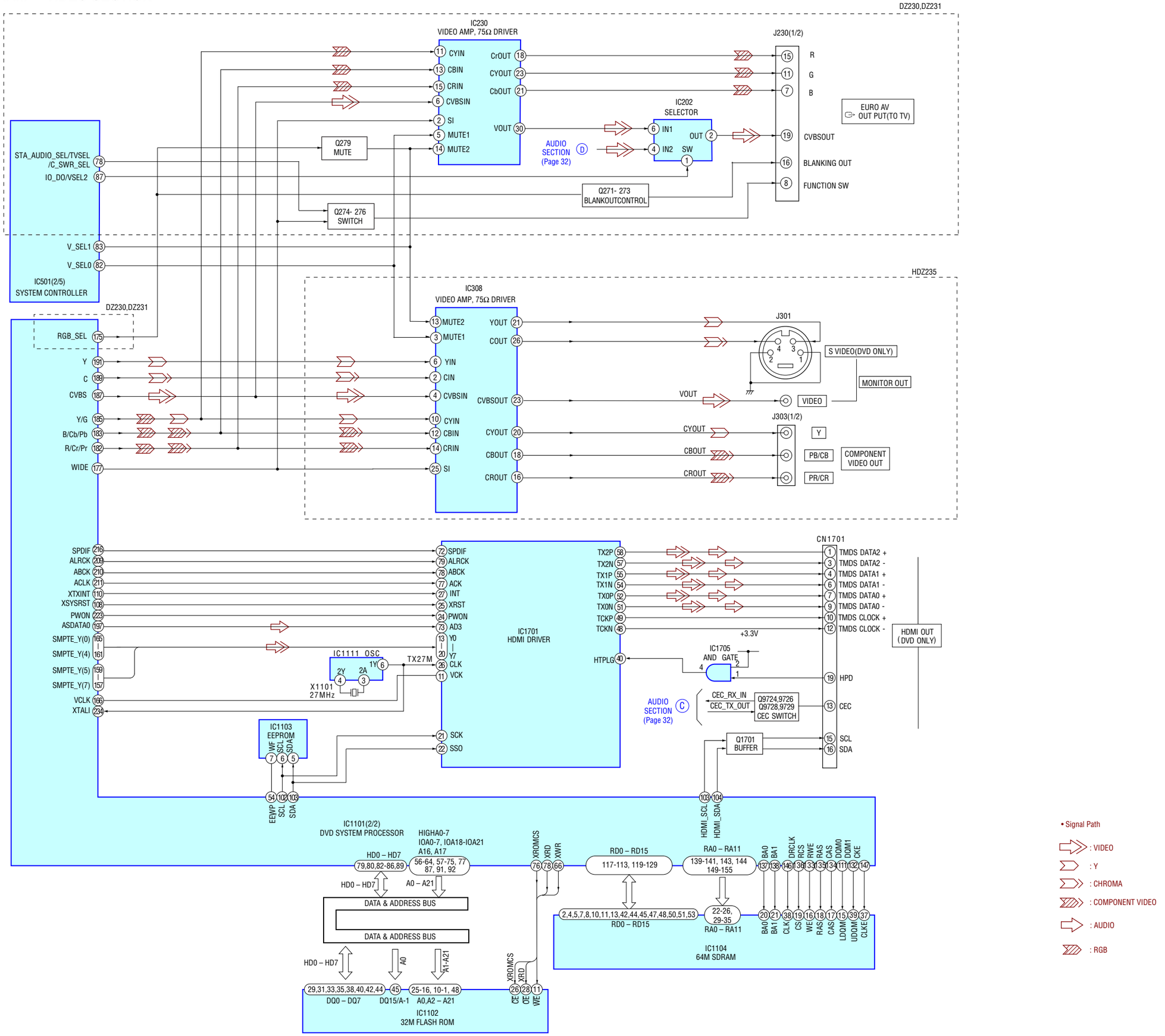


1 V/DIV, 20 µs/DIV

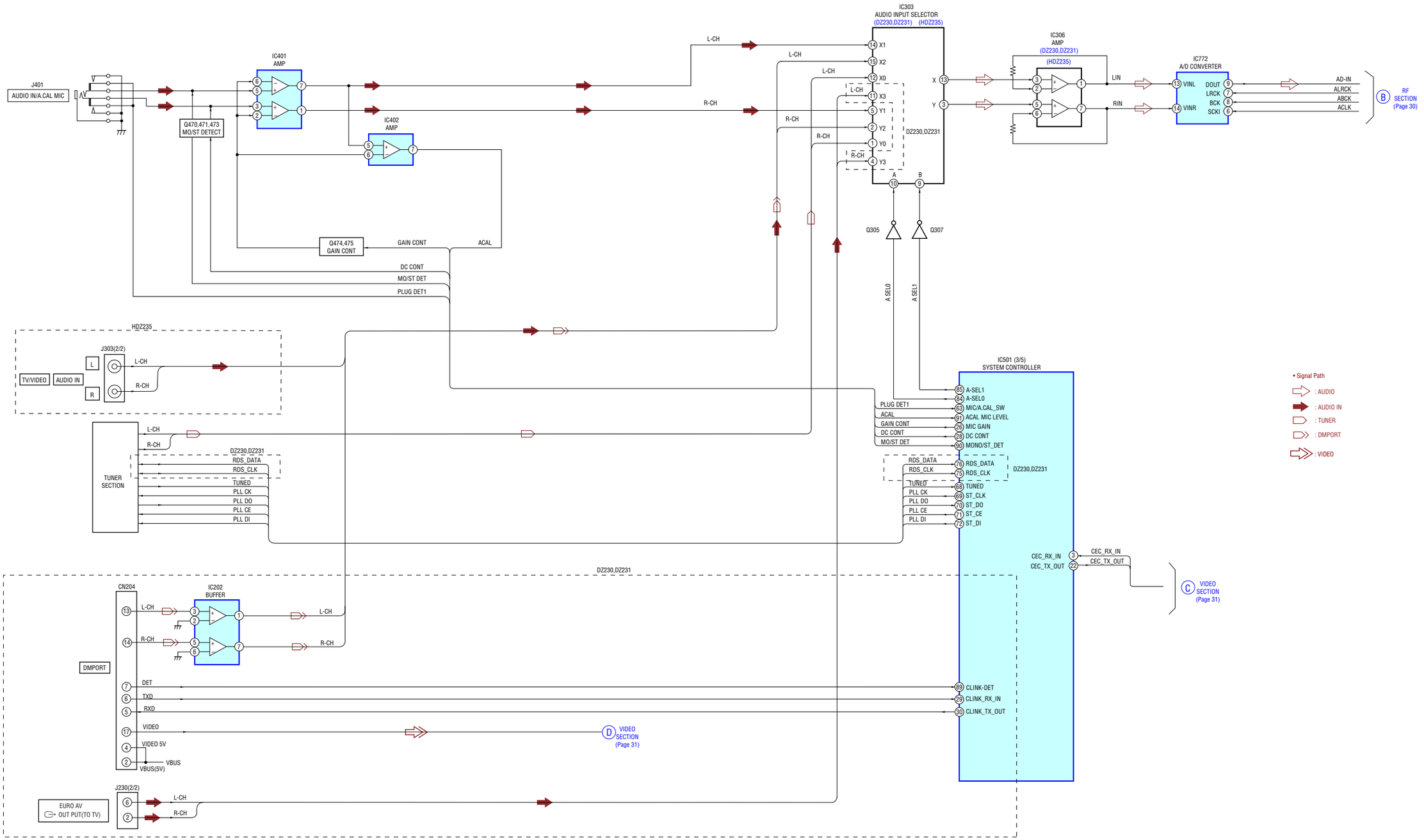
6-1. BLOCK DIAGRAM – RF SECTION –



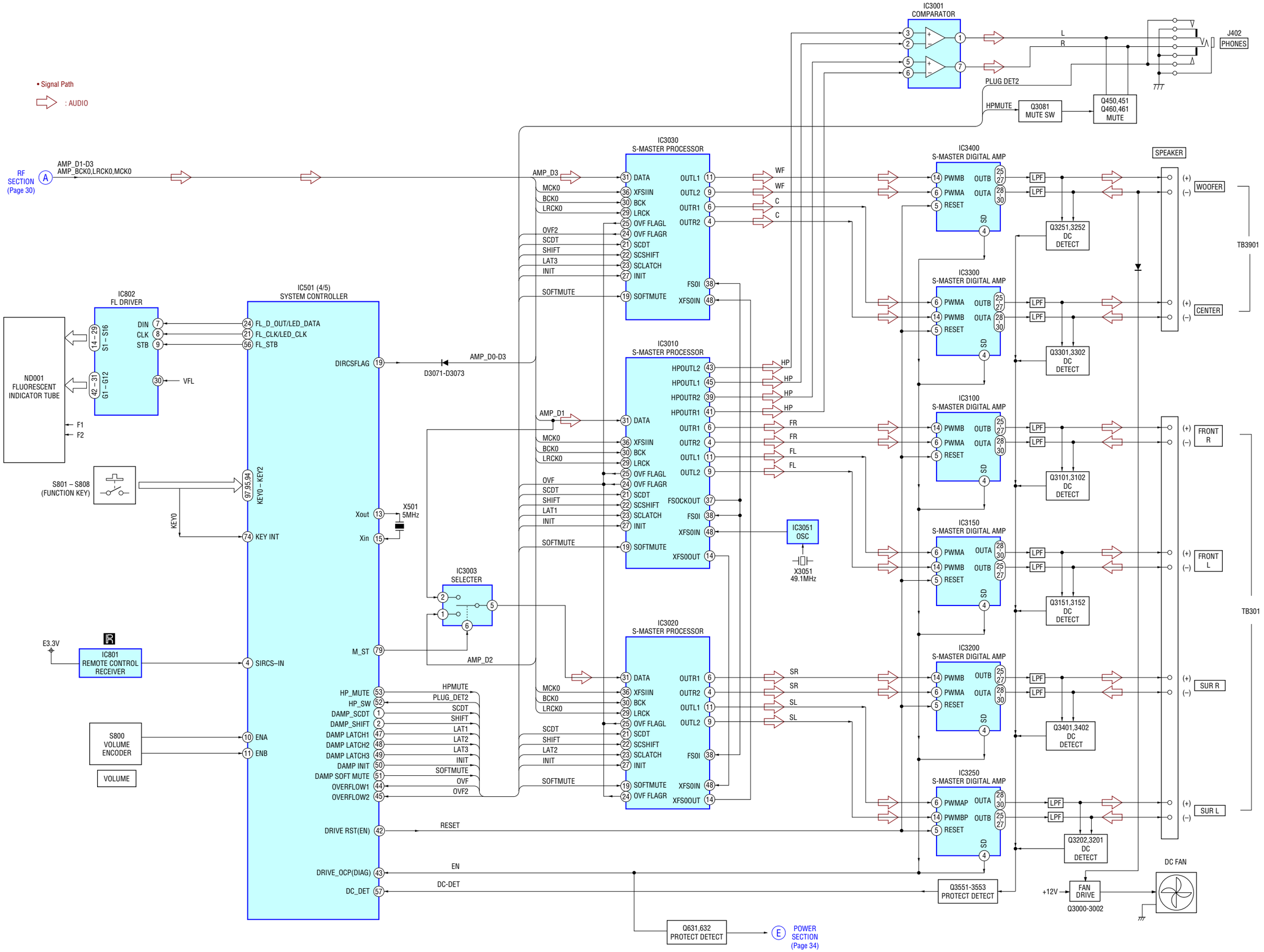
6-2. BLOCK DIAGRAM – VIDEO SECTION –



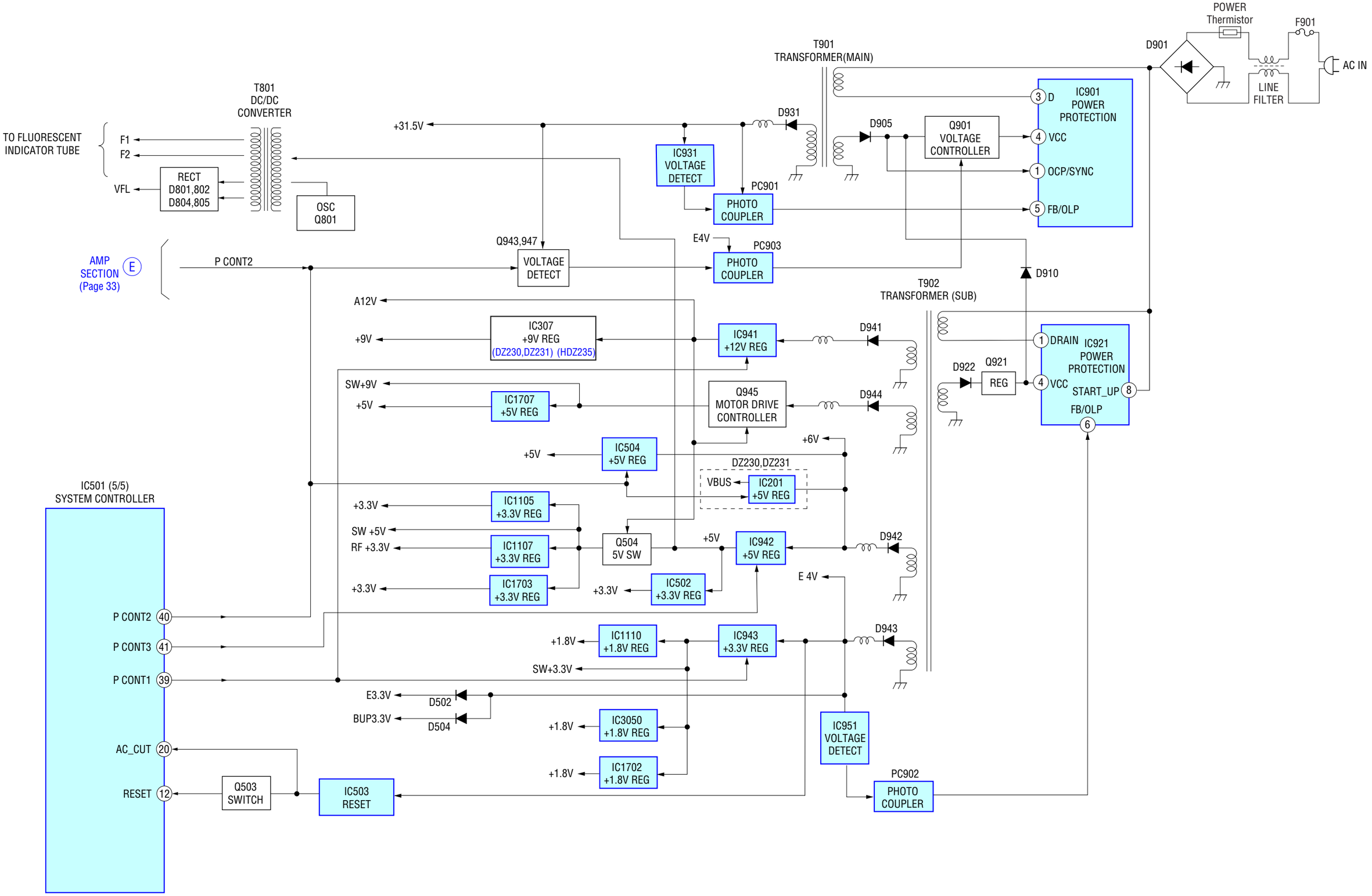
6-3. BLOCK DIAGRAM – AUDIO SECTION –



6-4. BLOCK DIAGRAM – AMP SECTION –



6-5. BLOCK DIAGRAM – POWER SECTION –

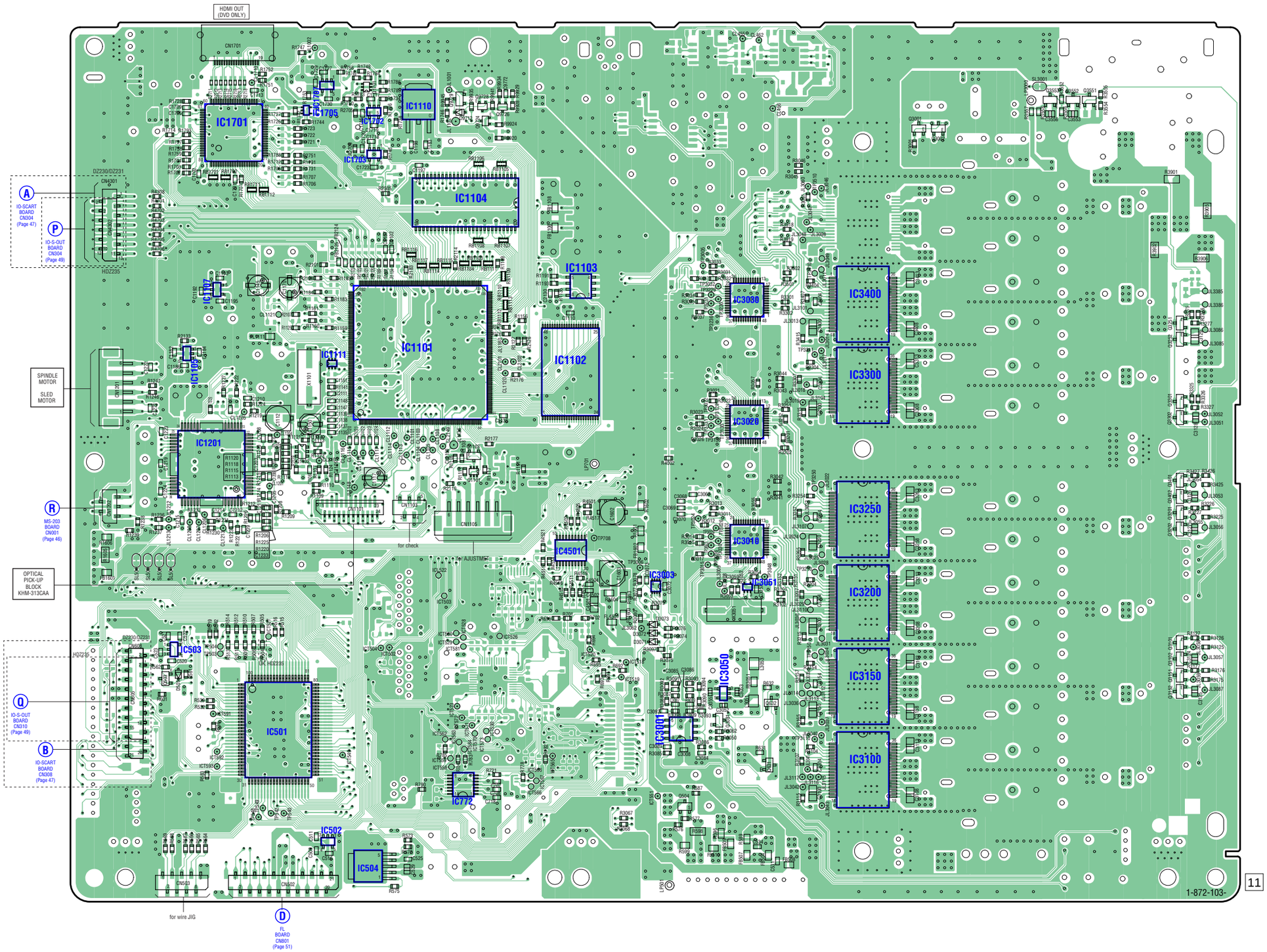


6-6. PRINTED WIRING BOARD – MAIN BOARD (SIDE A) –

• See page 29 for Circuit Boards Location.

:Uses unleaded solder.

【MAIN BOARD】(SIDE A)



- **Semiconductor Location**

Ref. No.	Location
D501	J-3
D3071	I-9
D3072	I-9
D3073	I-9
D9712	C-6
IC501	J-4
IC502	K-5
IC503	I-3
IC504	L-5
IC772	K-6
IC1101	F-6
IC1102	F-8
IC1103	E-8
IC1104	D-6
IC1105	F-3
IC1107	E-3
IC1110	C-6
IC1111	F-5
IC1201	G-3
IC1701	C-4
IC1702	C-5
IC1703	C-5
IC1705	C-5
IC1707	C-5
IC3001	J-9
IC3003	H-9
IC3010	H-10
IC3020	F-10
IC3030	E-10
IC3050	J-9
IC3051	H-10
IC3100	K-11
IC3150	J-11
IC3200	I-11
IC3250	H-11
IC3300	F-11
IC3400	E-11
IC4501	H-8
Q503	J-3
Q504	K-9
Q631	K-10
Q632	J-10
Q1101	G-6
Q1102	G-4
Q1103	G-6
Q1701	B-5
Q3001	C-12
Q3002	C-12
Q3081	J-9
Q3101	I-15
Q3102	I-15
Q3151	J-15
Q3152	J-15
Q3201	H-15
Q3202	H-15
Q3251	E-15
Q3252	F-15
Q3301	F-15
Q3302	F-15
Q3401	G-15
Q3402	G-15
Q3551	C-14
Q3552	C-14
Q3553	C-13
Q9724	C-6
Q9726	C-7
Q9728	C-6
Q9729	C-6

6-7. PRINTED WIRING BOARD – MAIN BOARD (SIDE B) –

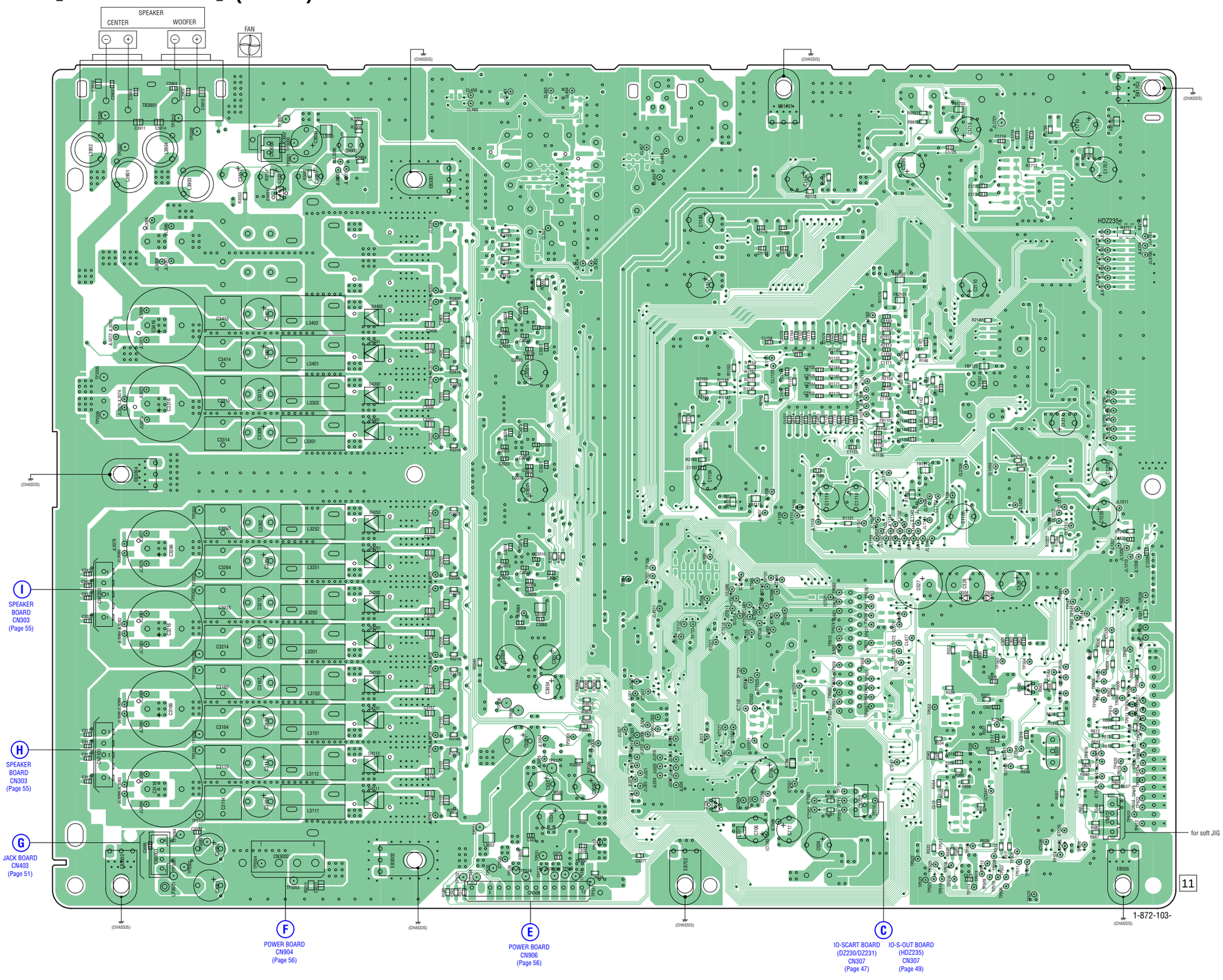
• See page 29 for Circuit Boards Location.

:Uses unleaded solder.

• **Semiconductor Location**

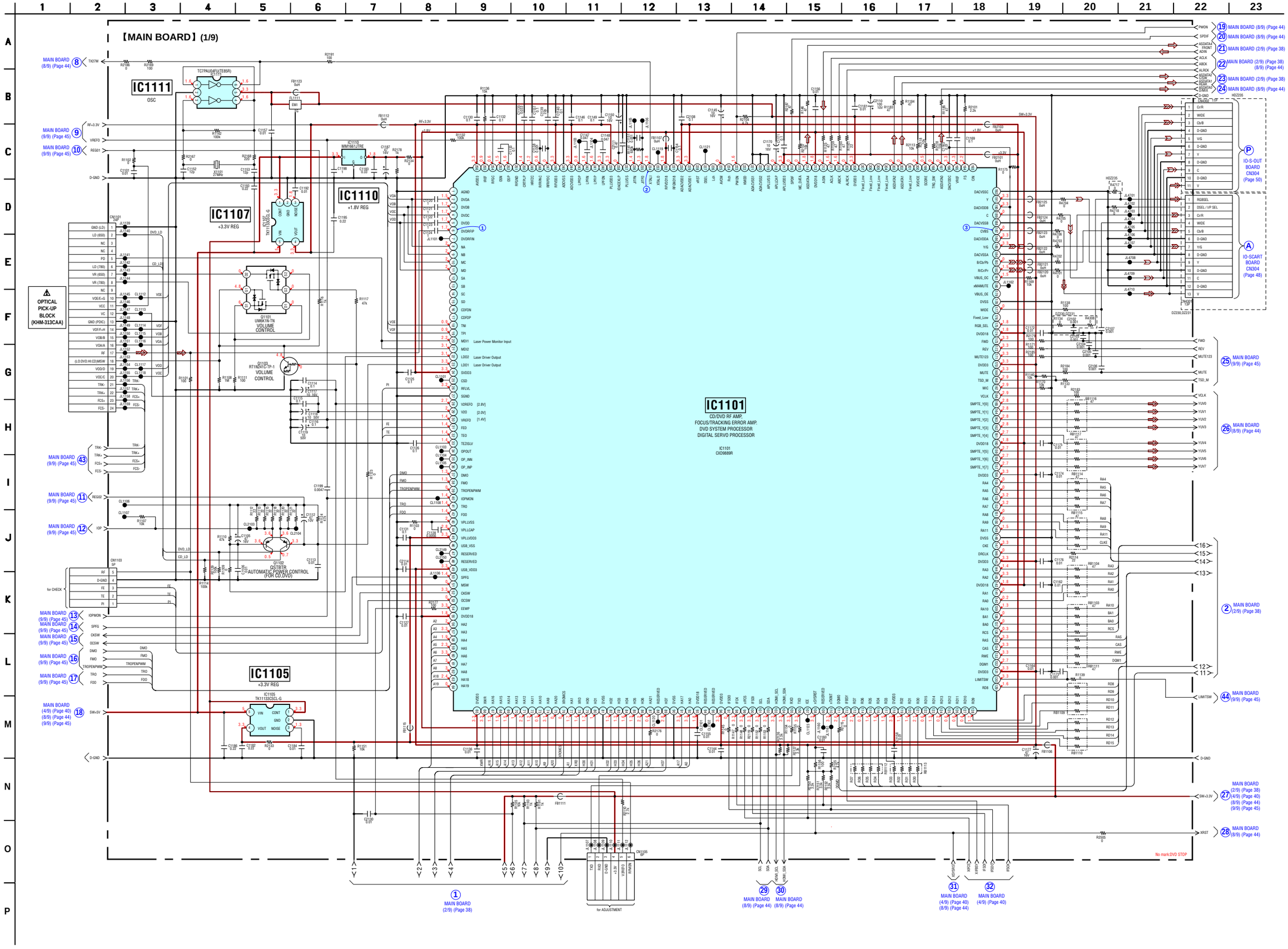
Ref. No.	Location
D502	H-4
D504	H-4
D505	J-3
D701	K-7
D3551	C-13
D4111	K-12
D4112	J-12
D4151	J-12
D4152	I-12
D4201	I-12
D4202	H-12
D4251	H-12
D4252	G-12
D4301	F-12
D4302	F-12
D4401	E-12
D4402	E-12
Q3000	C-12

【MAIN BOARD】(SIDE B)



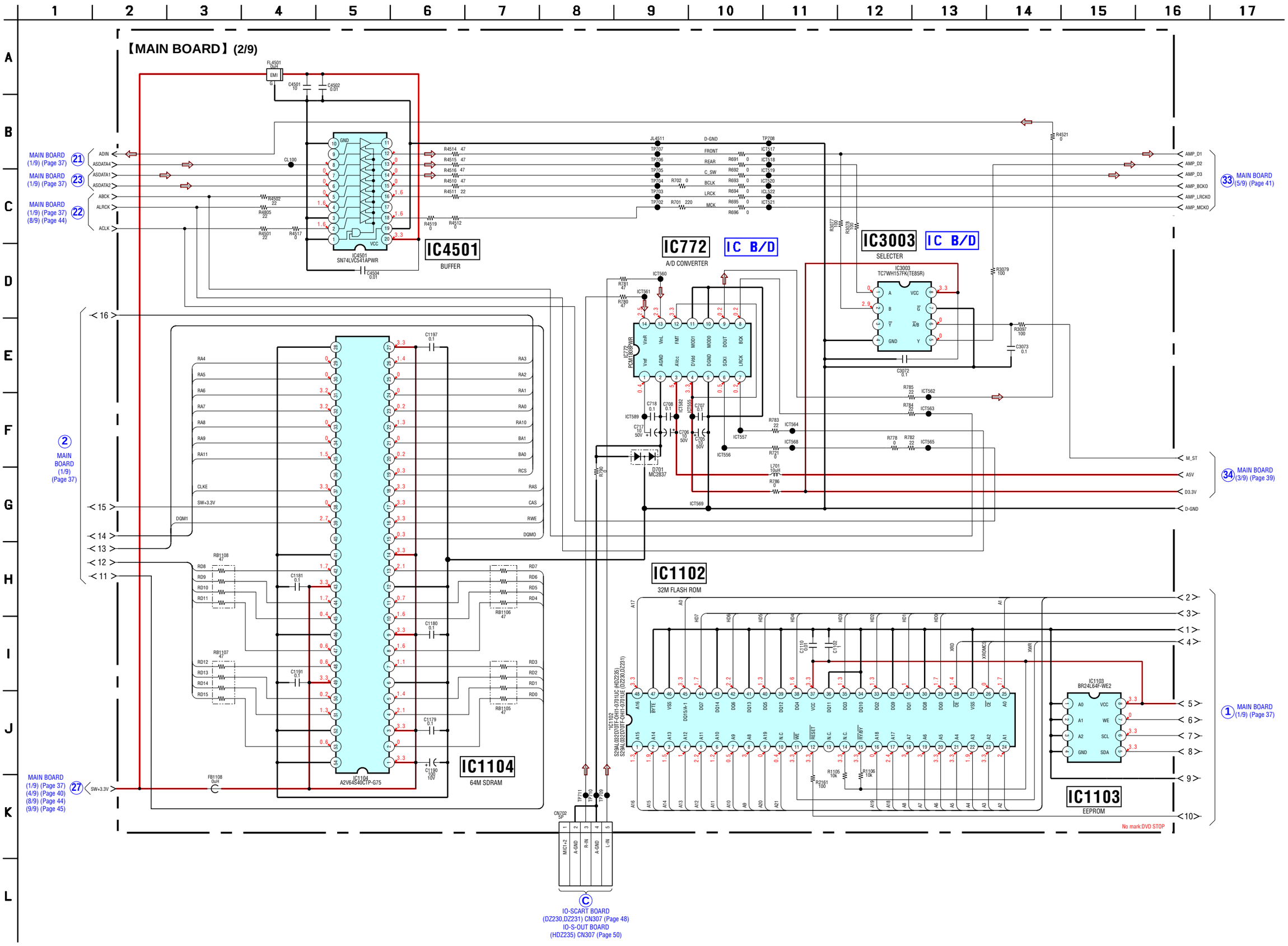
6-8. SCHEMATIC DIAGRAM – MAIN BOARD (1/9) –

• See page 29 for Waveforms. • See page 62 for IC Pin Function Description.



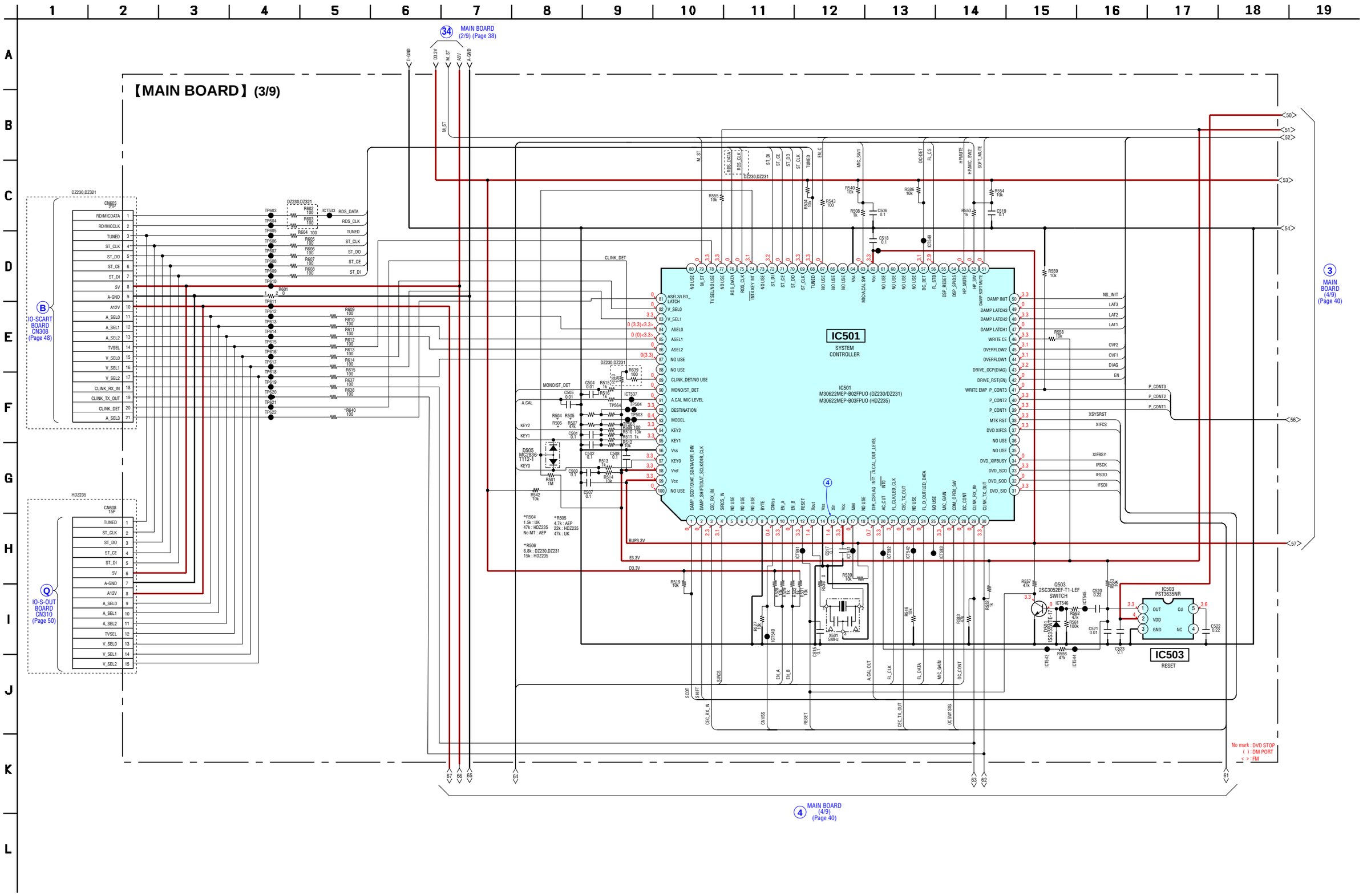
6-9. SCHEMATIC DIAGRAM – MAIN BOARD (2/9) –

• See page 58, 59 for IC Block Diagrams.

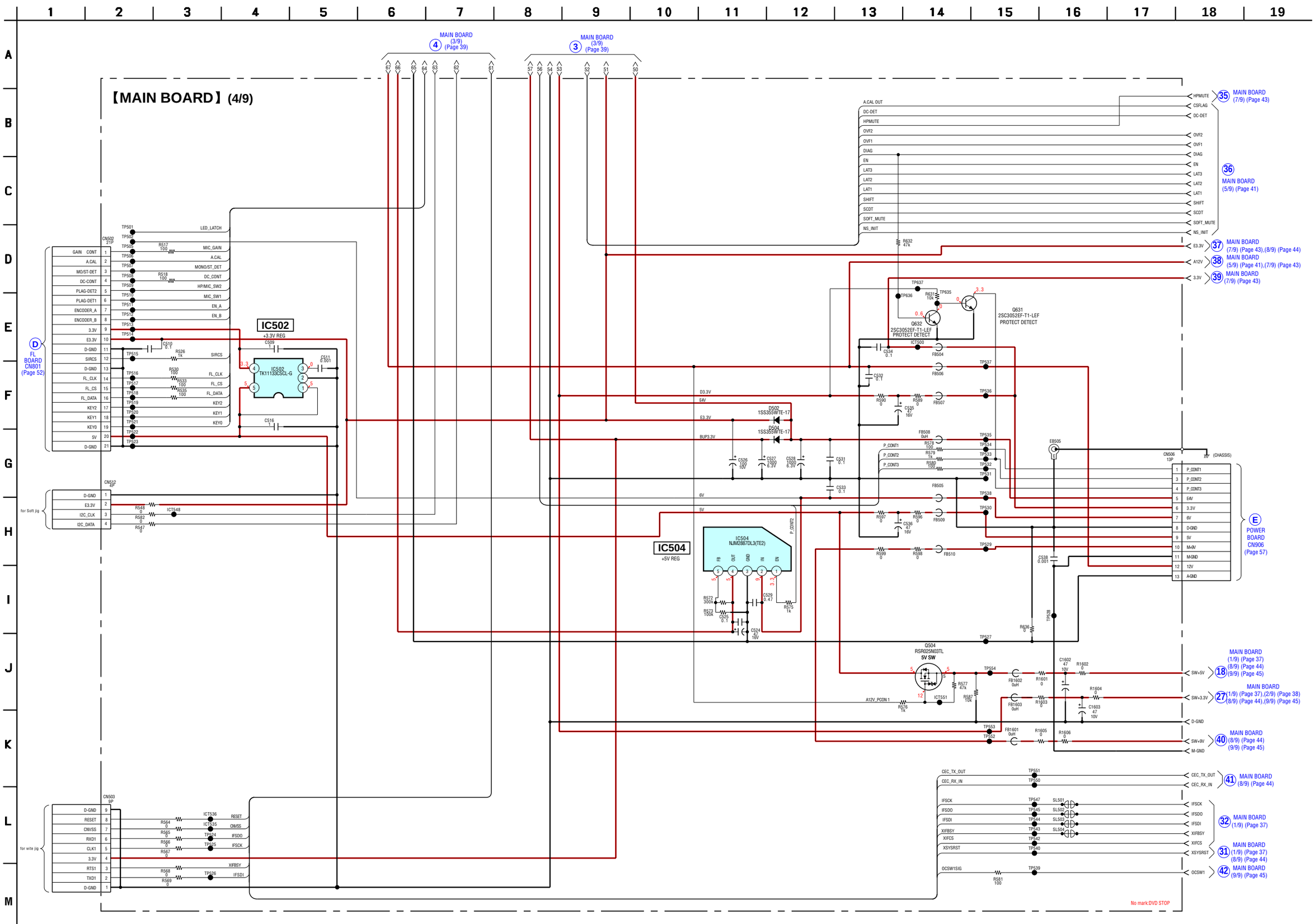


6-10. SCHEMATIC DIAGRAM – MAIN BOARD (3/9) –

• See page 29 for Waveform. • See page 67 for IC Pin Function Description.

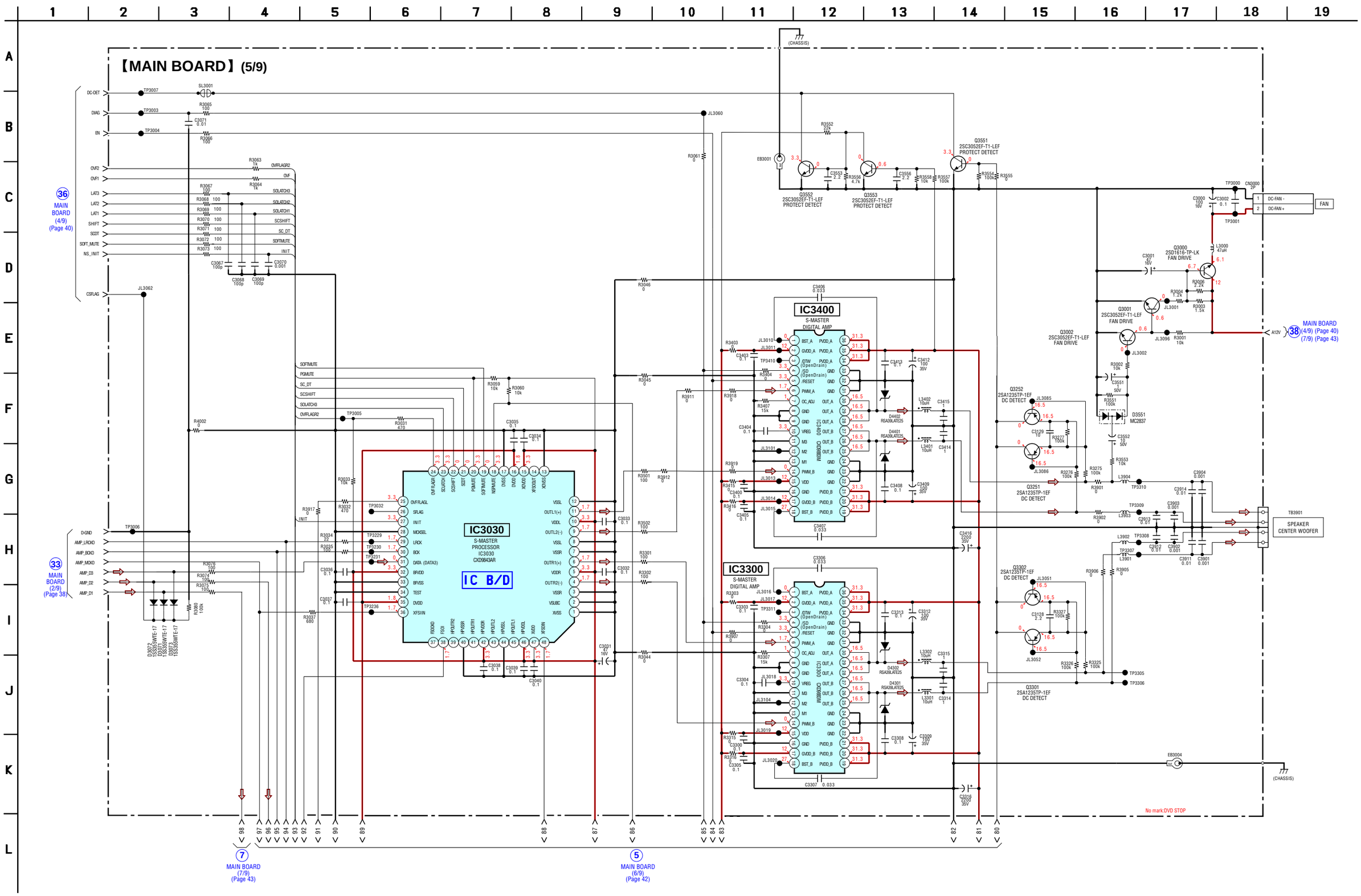


6-11. SCHEMATIC DIAGRAM – MAIN BOARD (4/9) –


【MAIN BOARD】(4/9)
IC502
IC502 TK11133CSCL-G
+3.3V REG
IC504
IC504 NJM2887DL3(TE2)
+5V REG
MAIN BOARD (3/9) (Page 39)
MAIN BOARD (7/9) (Page 43)
MAIN BOARD (5/9) (Page 41)
MAIN BOARD (7/9) (Page 43),(8/9) (Page 44)
MAIN BOARD (5/9) (Page 41),(7/9) (Page 43)
MAIN BOARD (7/9) (Page 43)
FL BOARD CN801 (Page 52)
POWER BOARD CN906 (Page 57)
MAIN BOARD (1/9) (Page 37) (8/9) (Page 44) (9/9) (Page 45)
MAIN BOARD (1/9) (Page 37),(2/9) (Page 38) (8/9) (Page 44),(9/9) (Page 45)
MAIN BOARD (8/9) (Page 44) (9/9) (Page 45)
MAIN BOARD (8/9) (Page 44)
MAIN BOARD (1/9) (Page 37)
MAIN BOARD (1/9) (Page 37) (8/9) (Page 44)
MAIN BOARD (9/9) (Page 45)
Q631 2SC3052EF-T1-LEF PROTECT DETECT
Q632 2SC3052EF-T1-LEF PROTECT DETECT
Q504 RSR025N03TL 5V SW
D502 1SS355WTE-17
D504 1SS355WTE-17
CN502 21P
CN512 4P
CN503 9P
CN506 13P
for Soft jig
for wite jig
No mark:DVD STOP

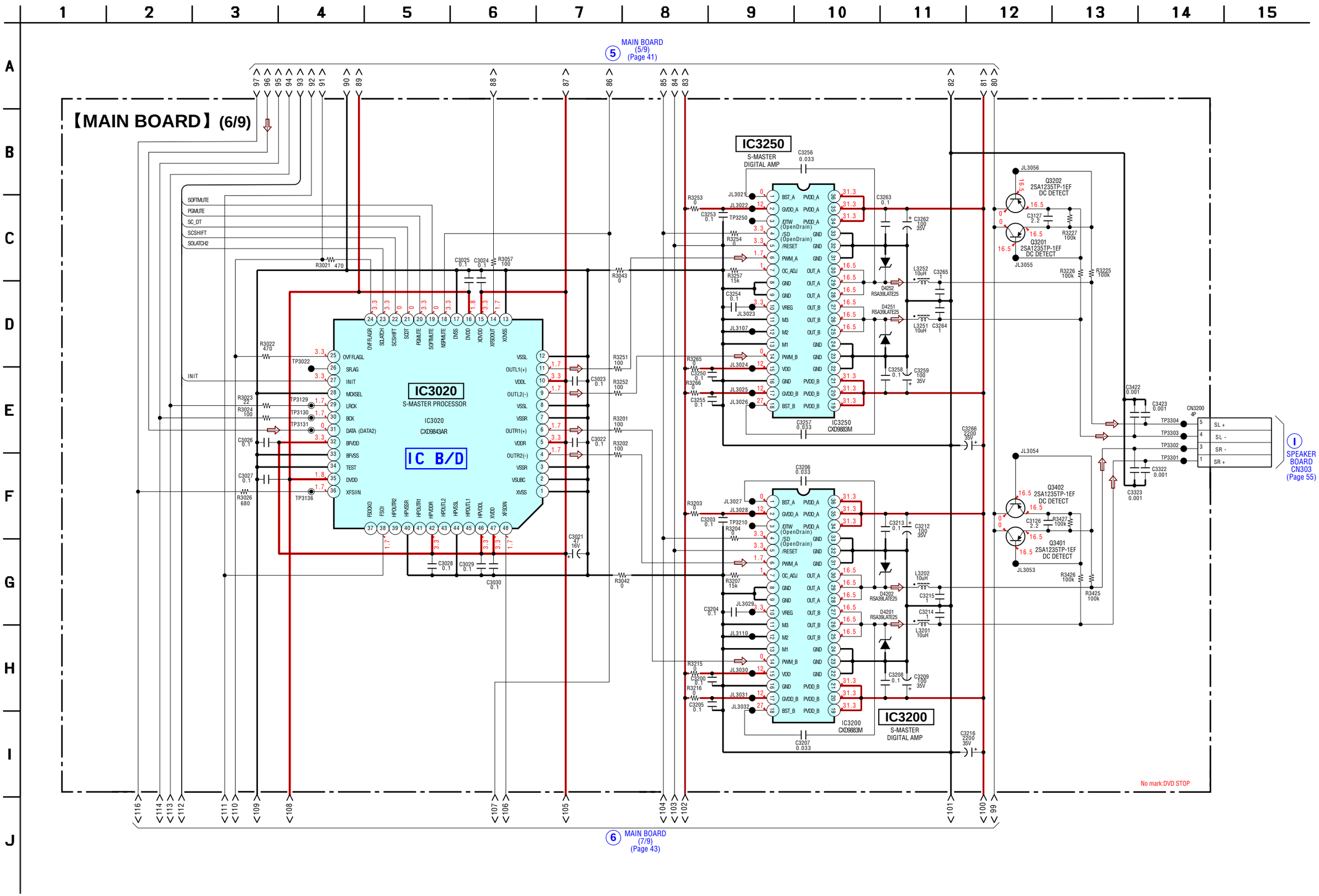
6-12. SCHEMATIC DIAGRAM – MAIN BOARD (5/9) –

• See page 58 for IC Block Diagram.



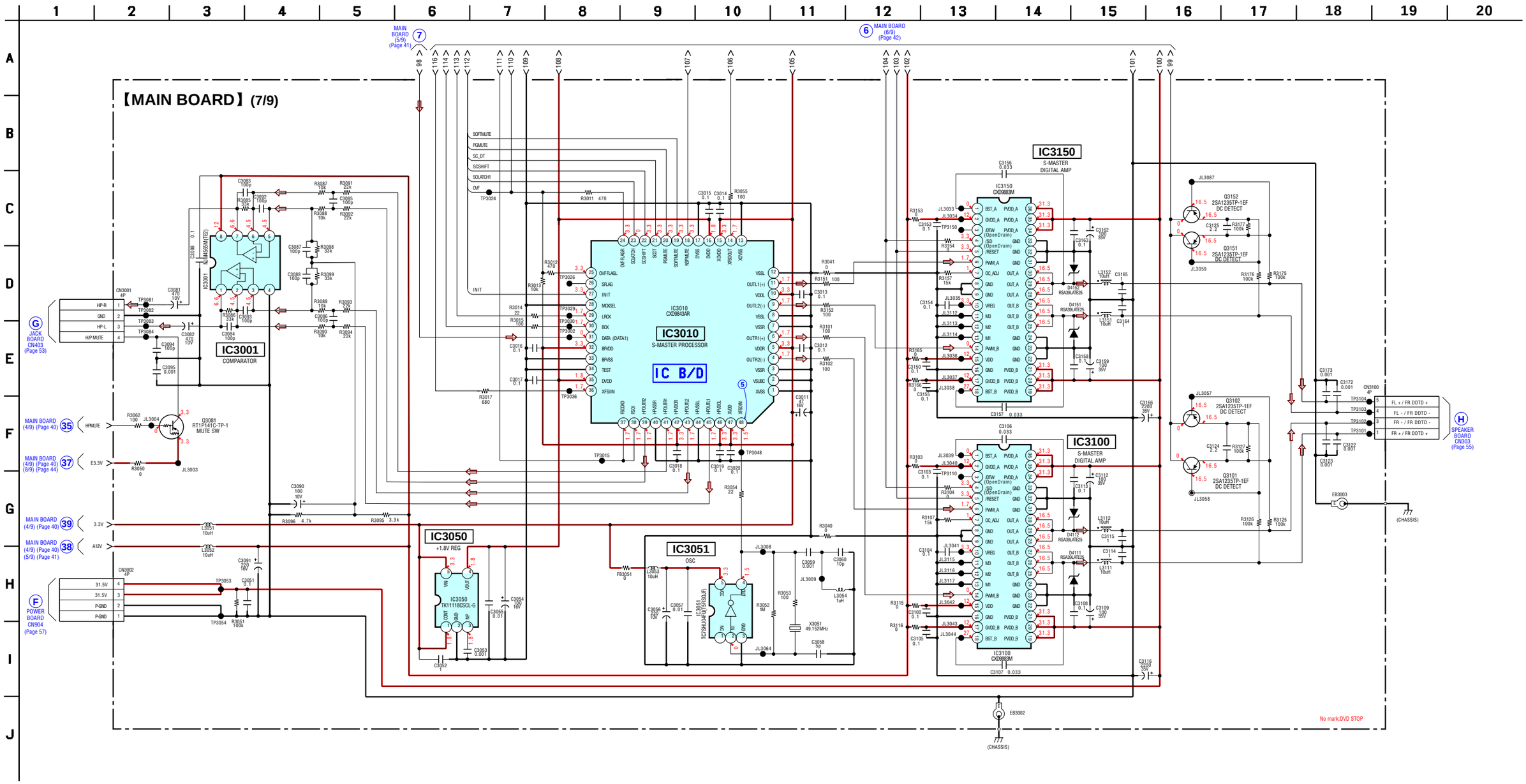
6-13. SCHEMATIC DIAGRAM – MAIN BOARD (6/9) –

• See page 58 for IC Block Diagram.



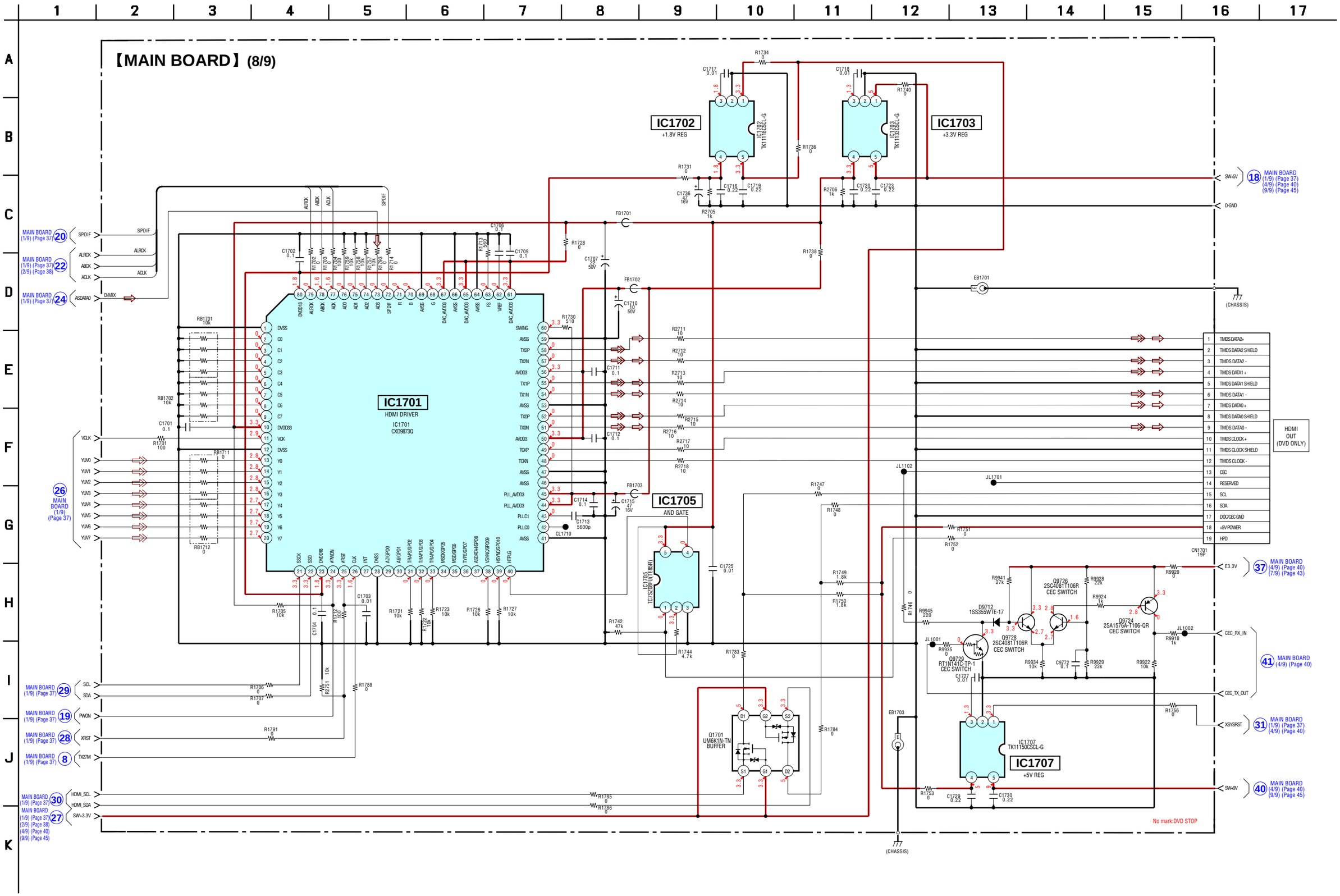
6-14. SCHEMATIC DIAGRAM – MAIN BOARD (7/9) –

• See page 29 for Waveform. • See page 58 for IC Block Diagram.



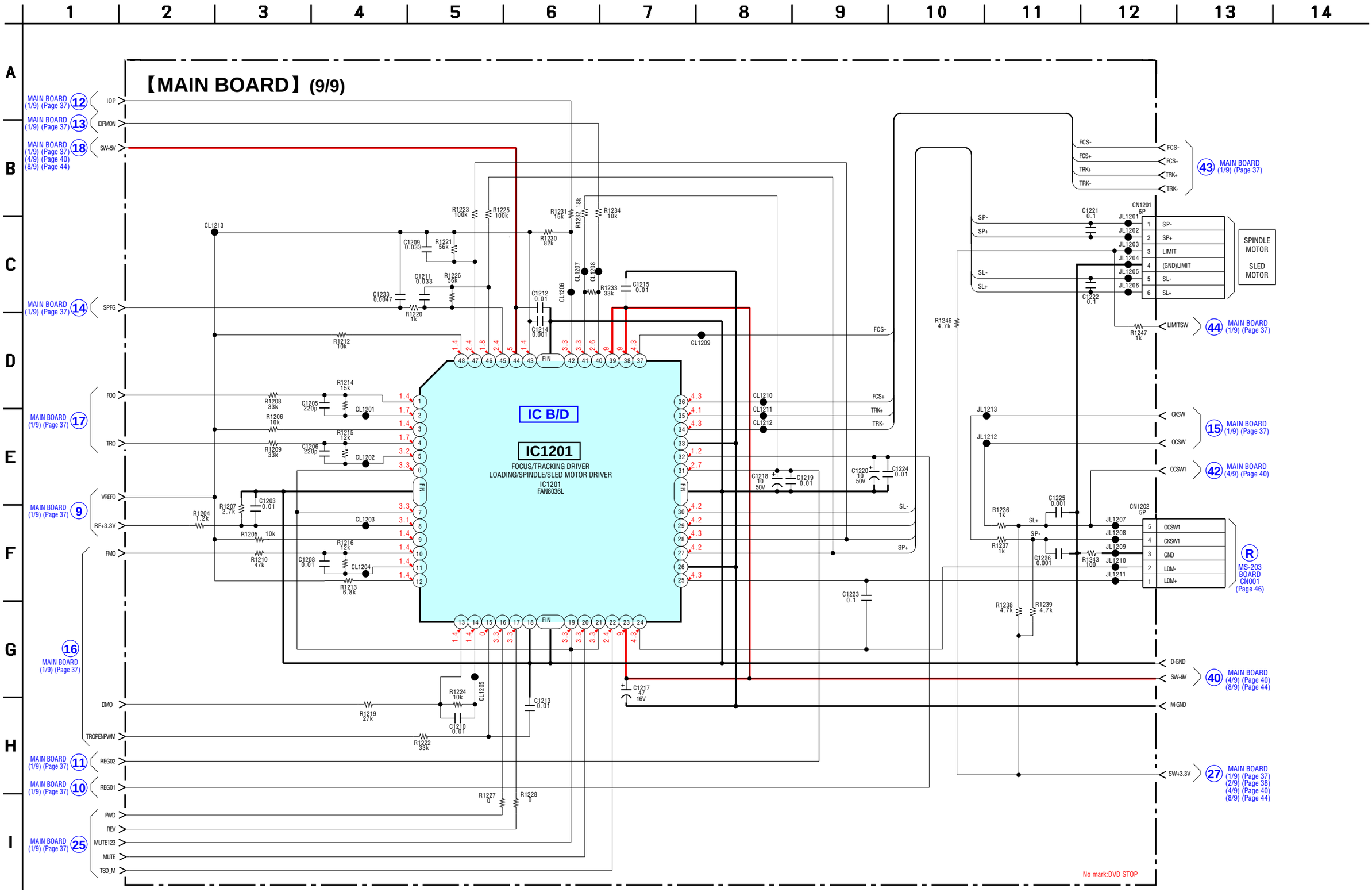
6-15. SCHEMATIC DIAGRAM – MAIN BOARD (8/9) –

• See page 25 for Waveforms. • See page 59 for IC Pin Function Description.



6-16. SCHEMATIC DIAGRAM – MAIN BOARD (9/9) –

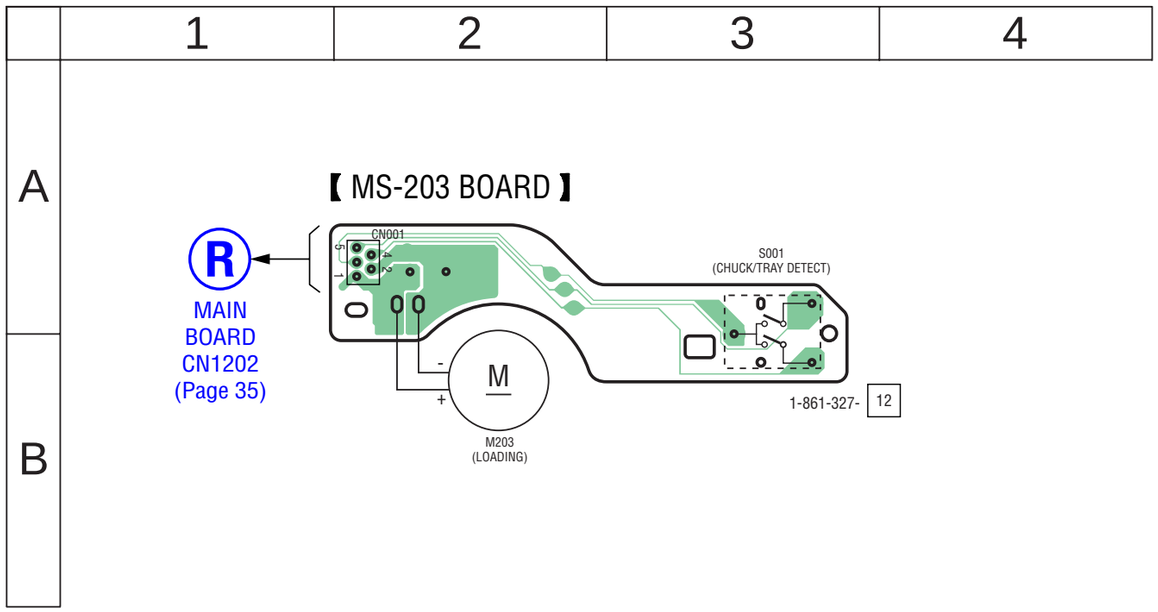
• See page 58 for IC Block Diagram.



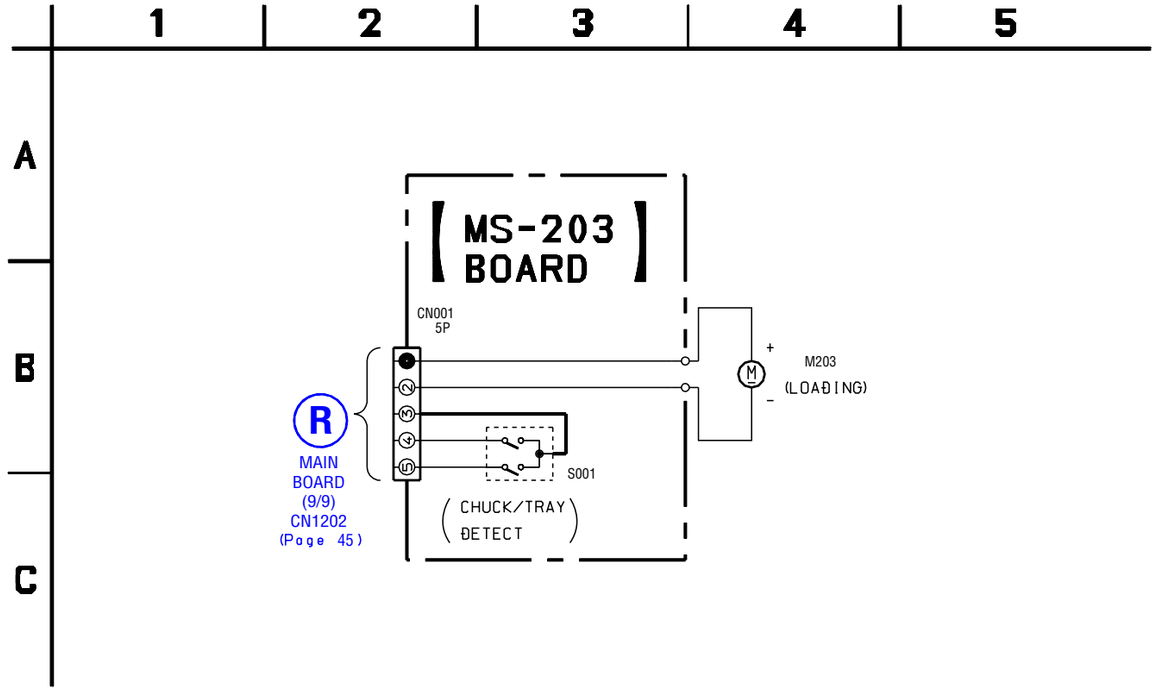
6-17. PRINTED WIRING BOARD – MS-203 BOARD –

• See page 29 for Circuit Boards Location.

:Uses unleaded solder.



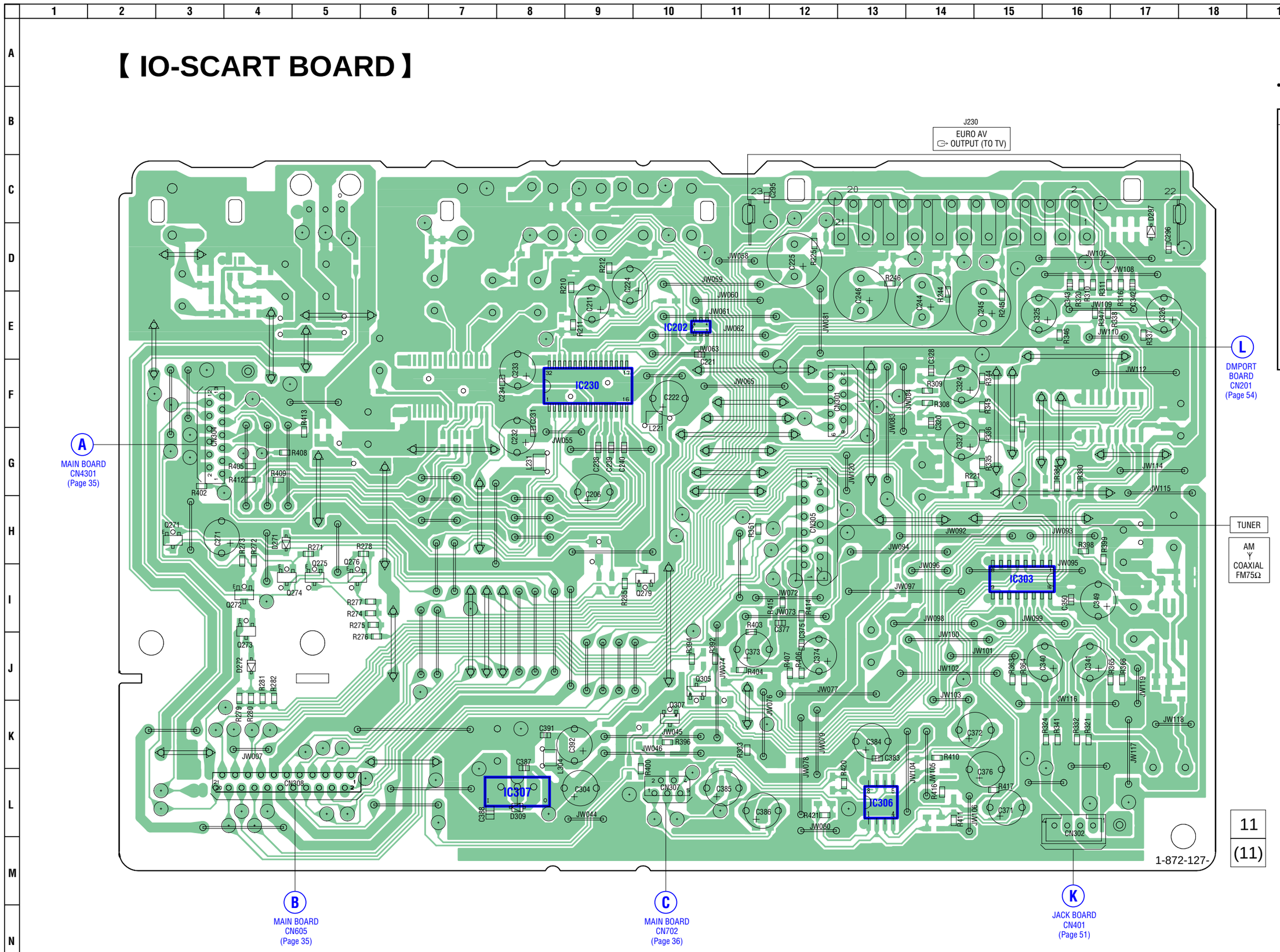
6-18. SCHEMATIC DIAGRAM – MS-203 BOARD –



6-19. PRINTED WIRING BOARD – IO-SCART BOARD (DZ230/DZ231) –

• See page 29 for Circuit Boards Location. :Uses unleaded solder.

【 IO-SCART BOARD 】

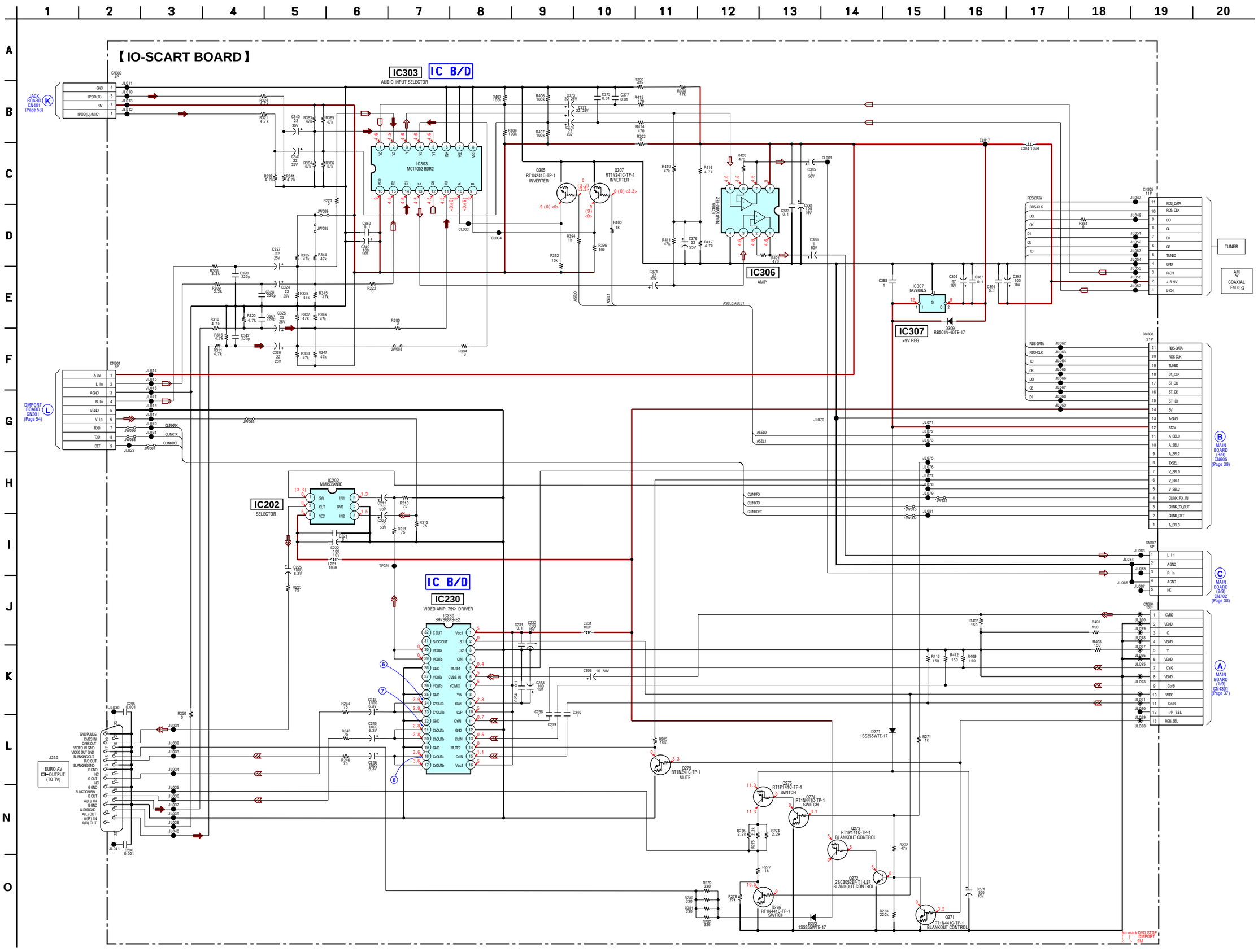


- **Semiconductor Location**

Ref. No.	Location
D271	H-4
D272	J-4
D297	D-17
D309	L-8
IC202	E-10
IC230	F-9
IC303	I-15
IC306	L-13
IC307	L-8
Q271	H-3
Q272	I-4
Q273	I-4
Q274	I-4
Q275	I-5
Q276	I-5
Q279	I-10
Q305	J-10
Q307	K-10

6-20. SCHEMATIC DIAGRAM – IO-SCART BOARD (DZ230/DZ231) –

• See page 29 for Waveforms. • See page 59, 60 for IC Block Diagrams.



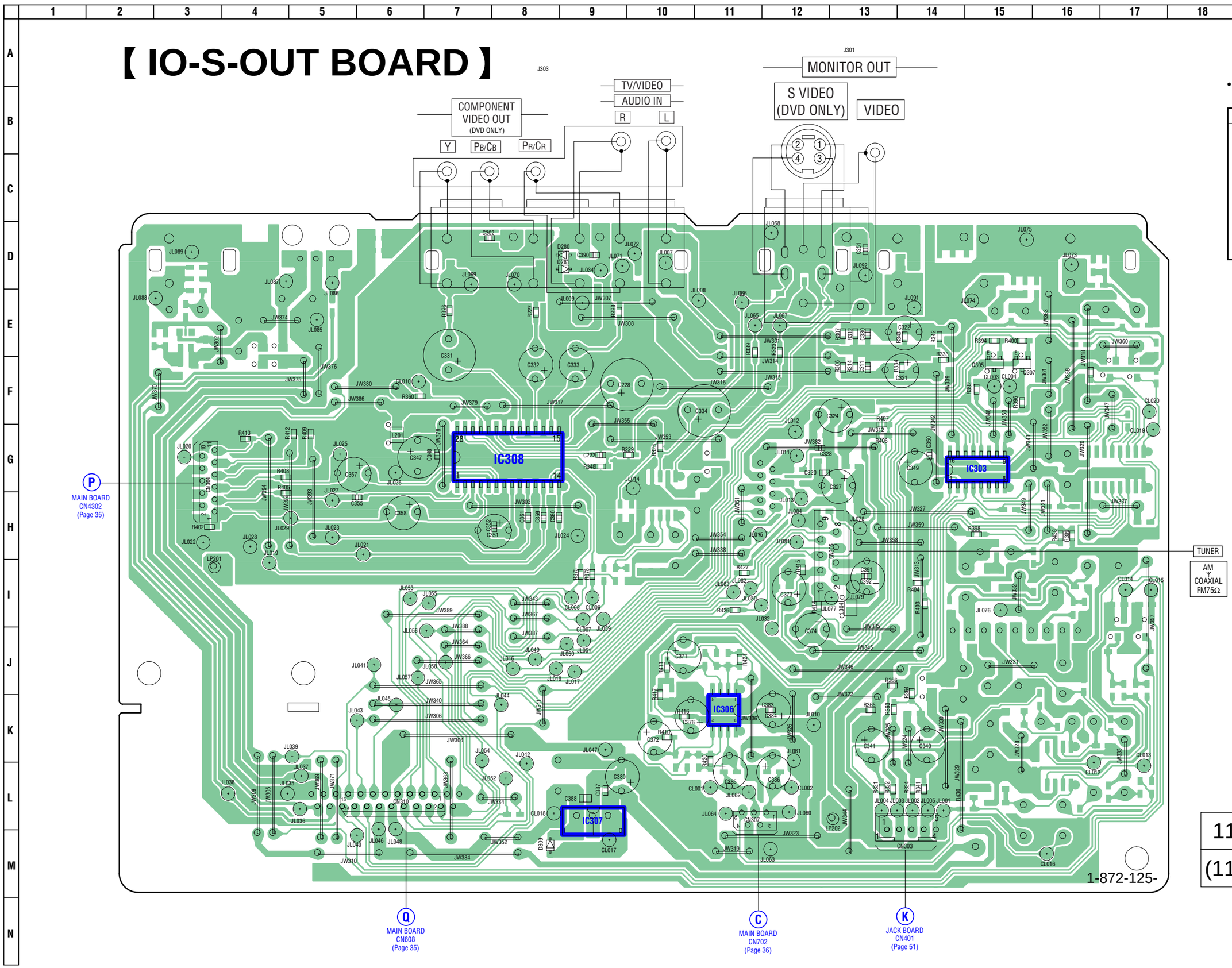
6-21. PRINTED WIRING BOARD – IO-S-OUT BOARD (HDZ235) –

• See page 29 for Circuit Boards Location. :Uses unleaded solder.

【 IO-S-OUT BOARD 】

- **Semiconductor Location**

Ref. No.	Location
D280	D-9
D281	D-9
D309	M-8
IC303	G-15
IC306	K-11
IC307	L-9
IC308	G-8
Q305	E-15
Q307	E-15

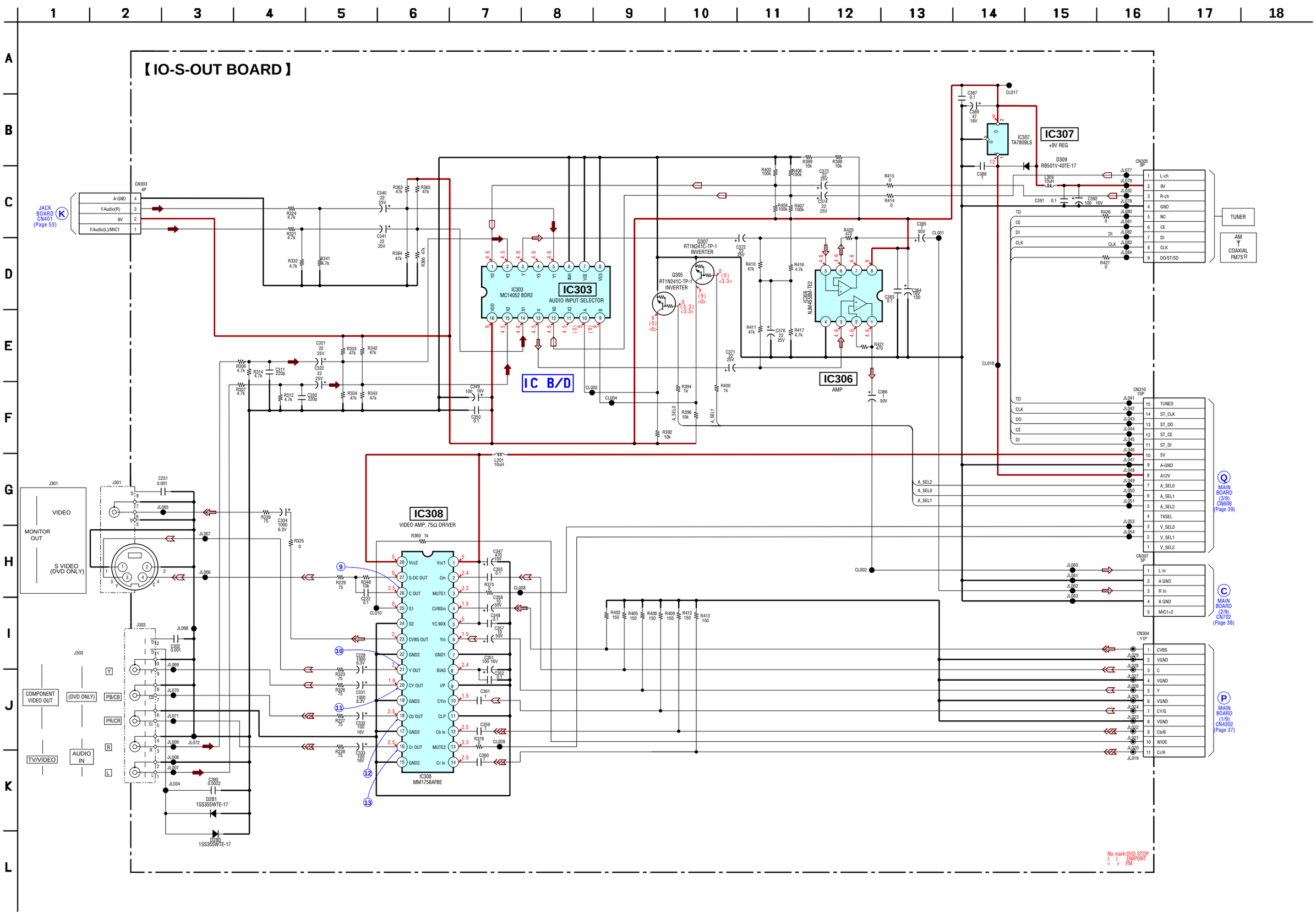


1-872-125-

11
(11)

6-22. SCHEMATIC DIAGRAM – IO-S-OUT BOARD (HDZ235) –

• See page 29 for Waveforms. • See page 59 for IC Block Diagrams.

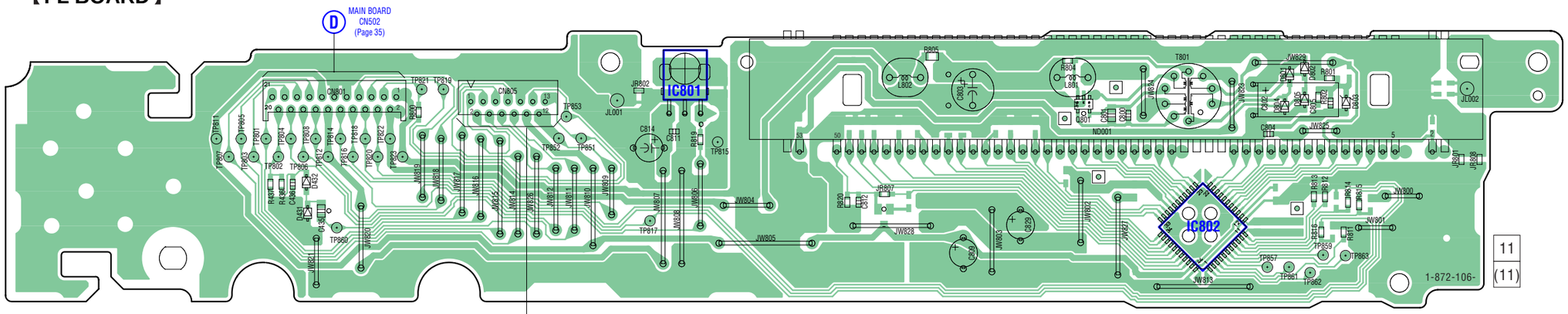


6-23. PRINTED WIRING BOARDS – FL, JACK BOARD –

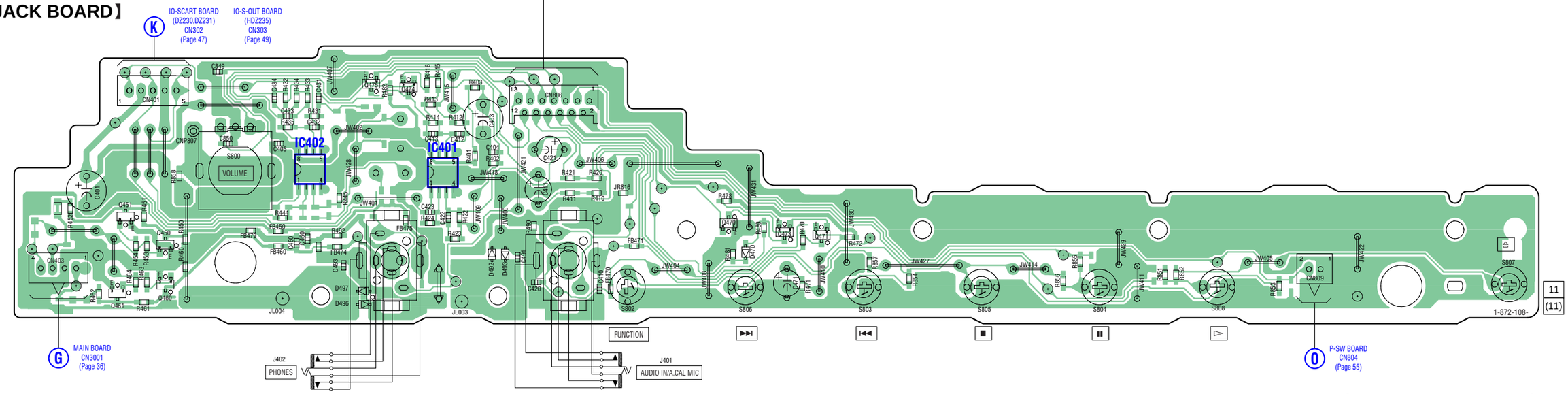
• See page 29 for Circuit Boards Location.

:Uses unleaded solder.

【FL BOARD】



【JACK BOARD】



– FL Board –

- **Semiconductor Location**

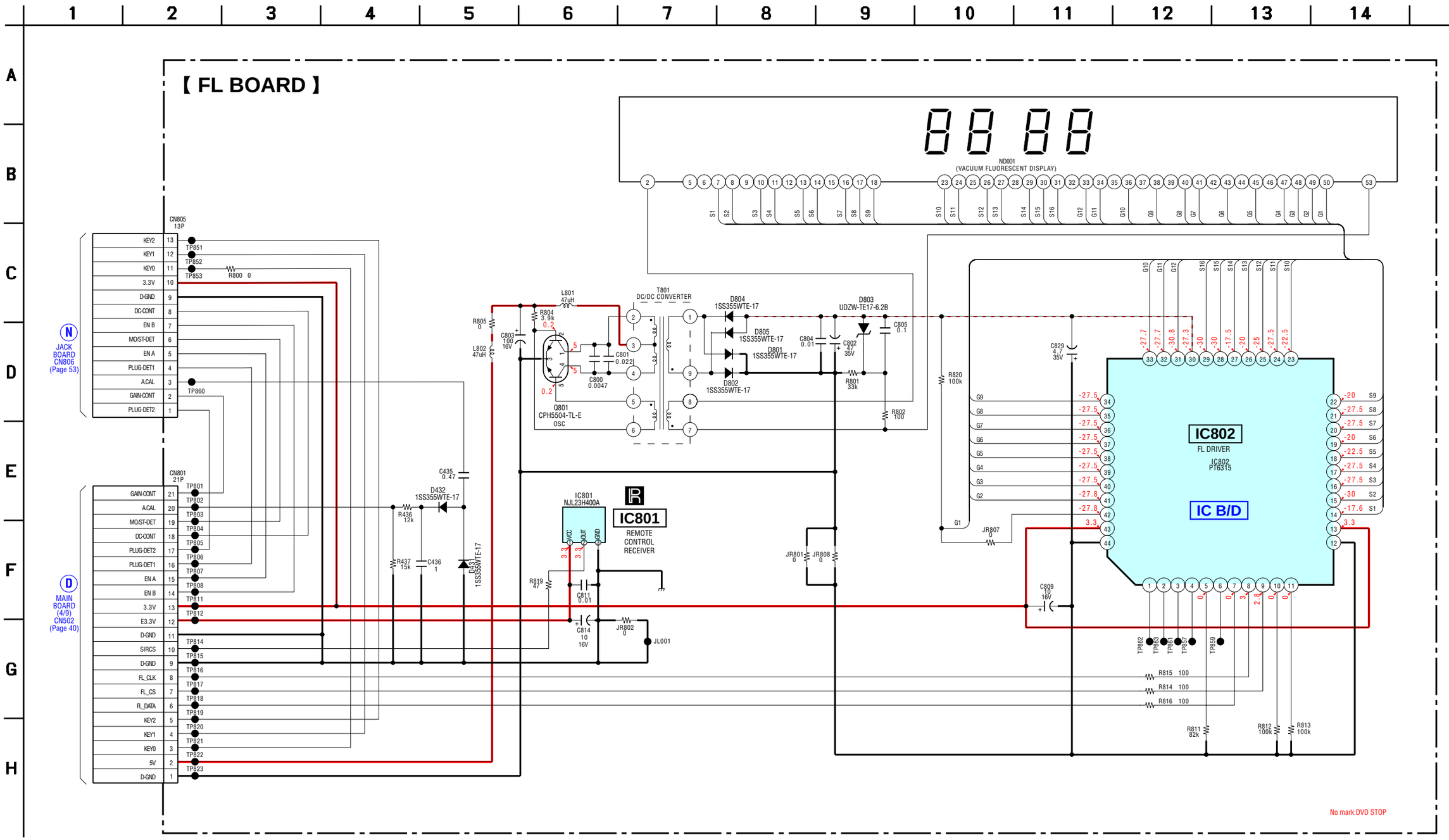
Ref. No.	Location
D431	D-7
D432	D-7
D801	B-20
D802	B-20
D803	C-21
D804	C-20
D805	C-20
IC801	C-12
IC802	E-19
Q801	C-17

– JACK Board –

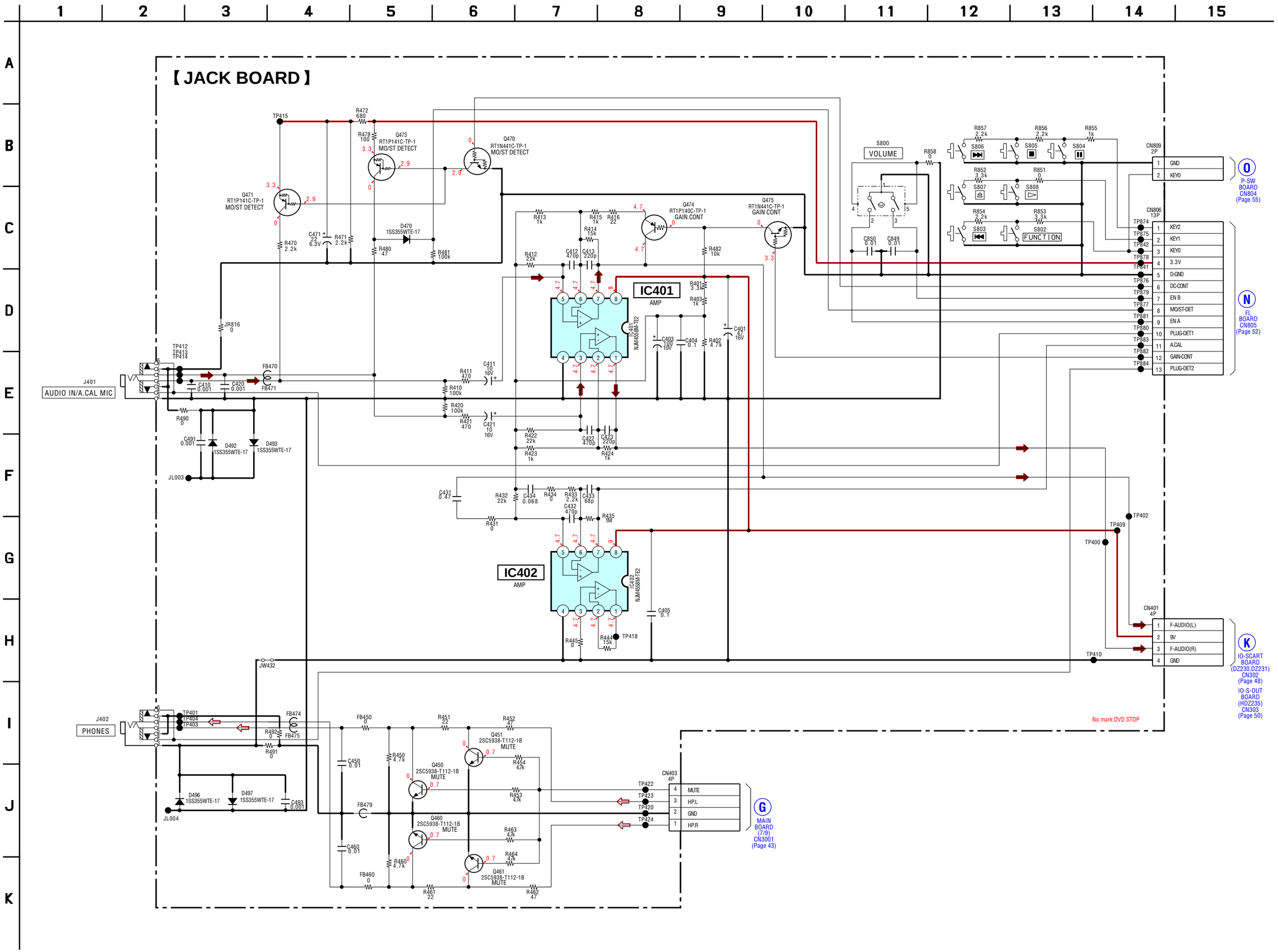
- **Semiconductor Location**

Ref. No.	Location
D470	K-13
D492	K-9
D493	K-9
D496	L-7
D497	K-7
IC401	J-8
IC402	J-6
Q450	K-4
Q451	J-3
Q460	K-4
Q461	L-3
Q470	J-12
Q471	K-14
Q473	K-13
Q474	H-7
Q475	H-7

6-24. SCHEMATIC DIAGRAM – FL BOARD – • See page 61 for IC Block Diagram.



6-25. SCHEMATIC DIAGRAM – JACK BOARD –

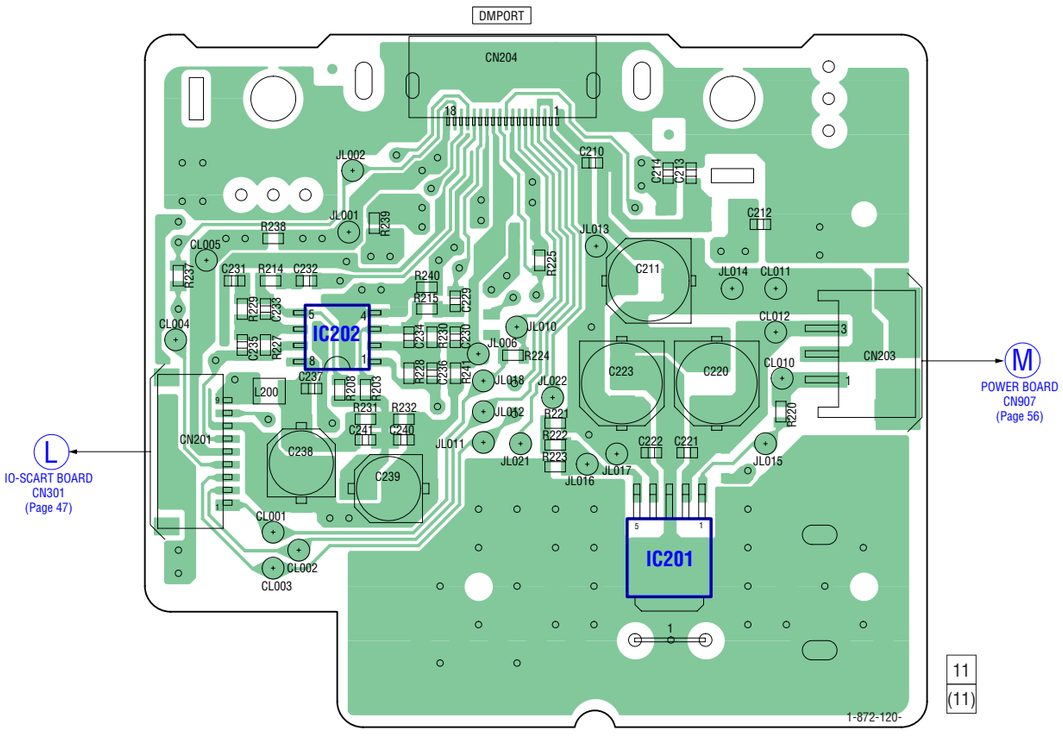


6-26. PRINTED WIRING BOARD – DMPORT BOARD (DZ230/DZ231) –

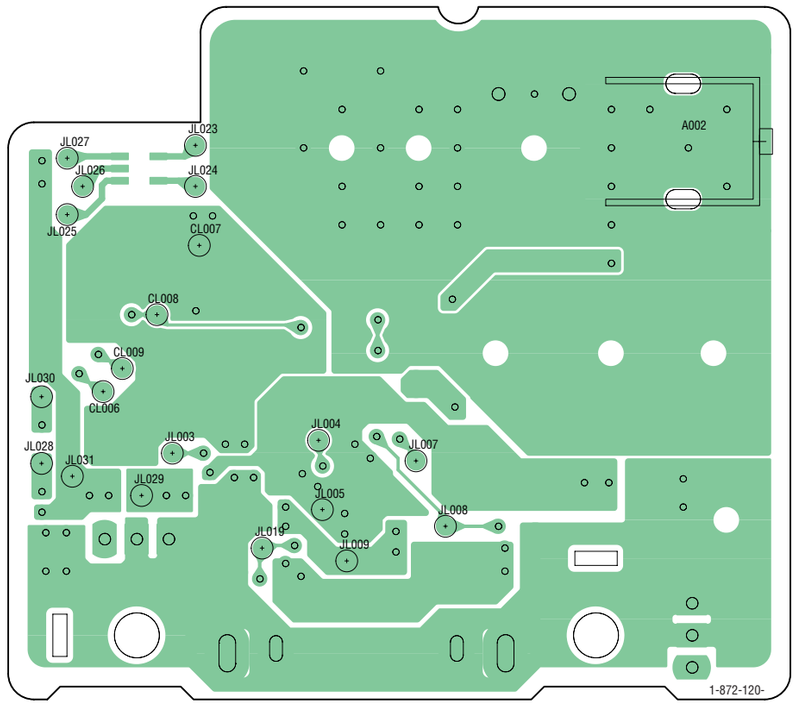
• See page 29 for Circuit Boards Location.

:Uses unleaded solder.

【DMPORT BOARD】(SIDE A)

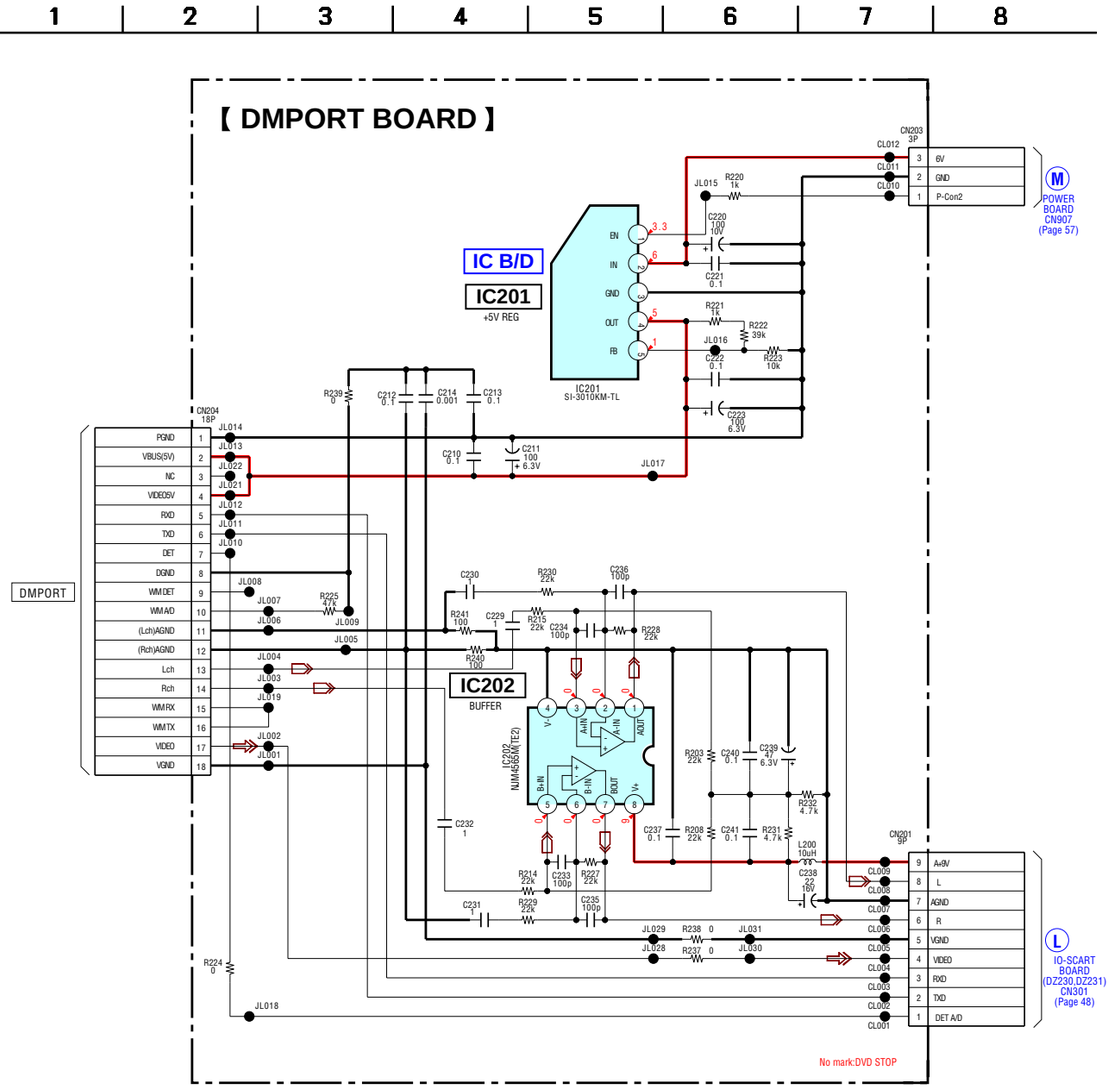


【DMPORT BOARD】(SIDE B)



6-27. SCHEMATIC DIAGRAM – DMPORT BOARD (DZ230/DZ231) –

• See page 61 for IC Block Diagram.

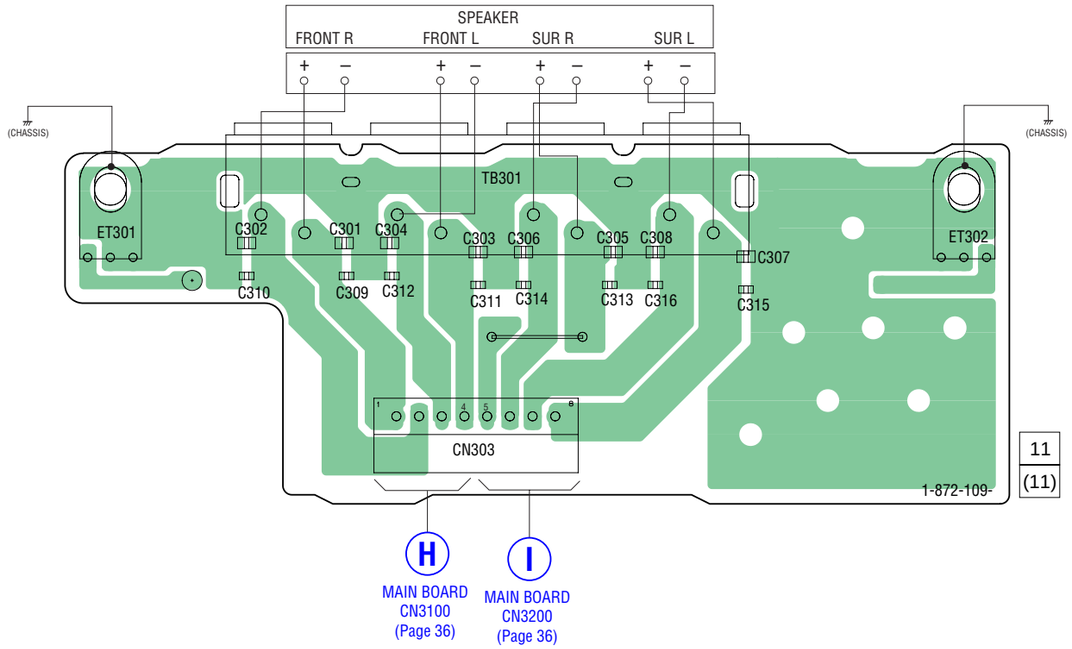


6-28. PRINTED WIRING BOARDS – SPEAKER, P-SW BOARD –

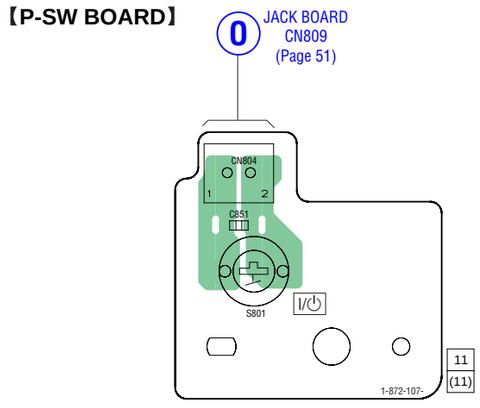
• See page 29 for Circuit Boards Location.

:Uses unleaded solder.

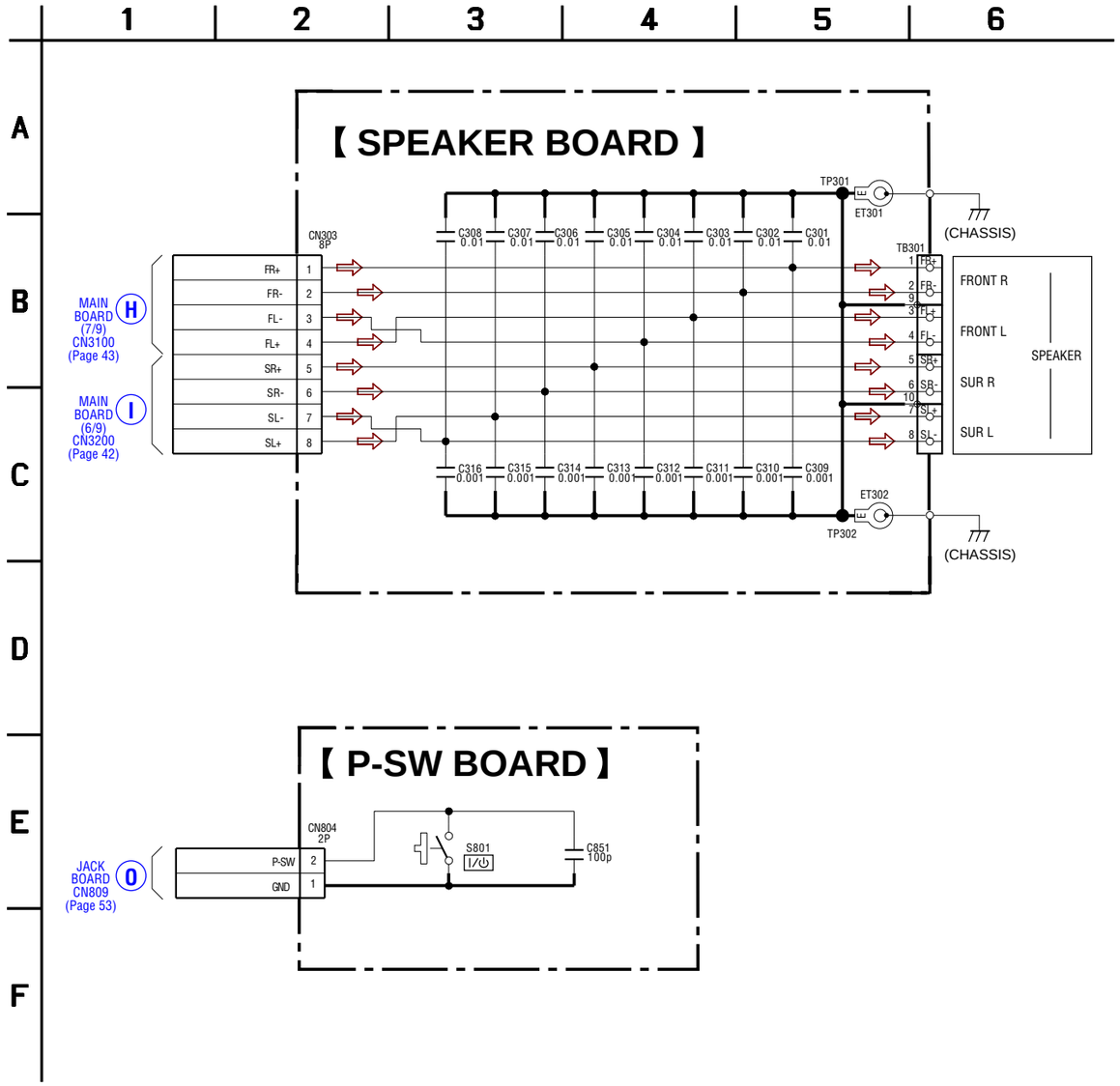
【SPEAKER BOARD】



【P-SW BOARD】



6-29. SCHEMATIC DIAGRAM – SPEAKER, P-SW BOARD –

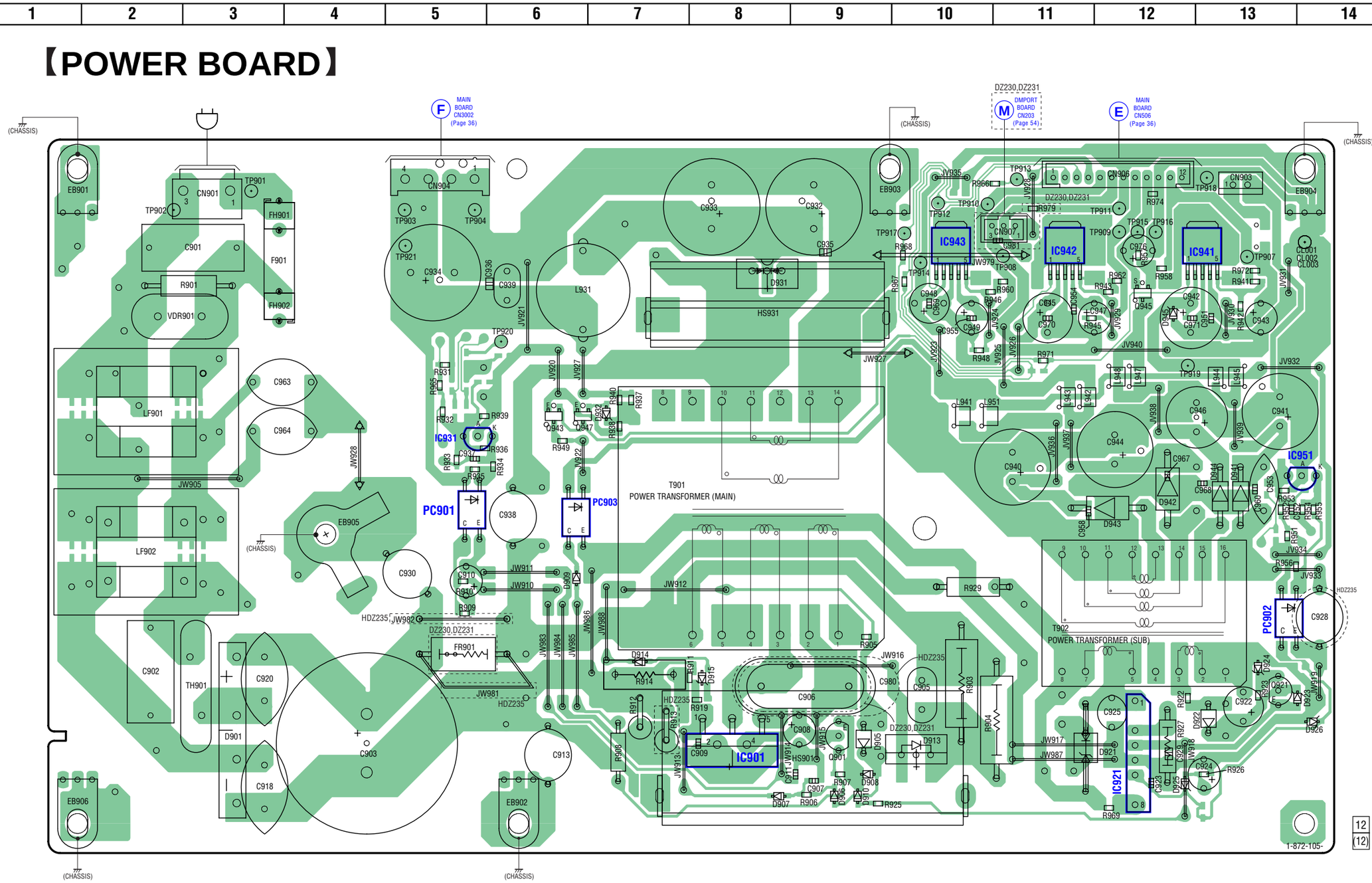


6-30. PRINTED WIRING BOARD – POWER BOARD –

• See page 29 for Circuit Boards Location.

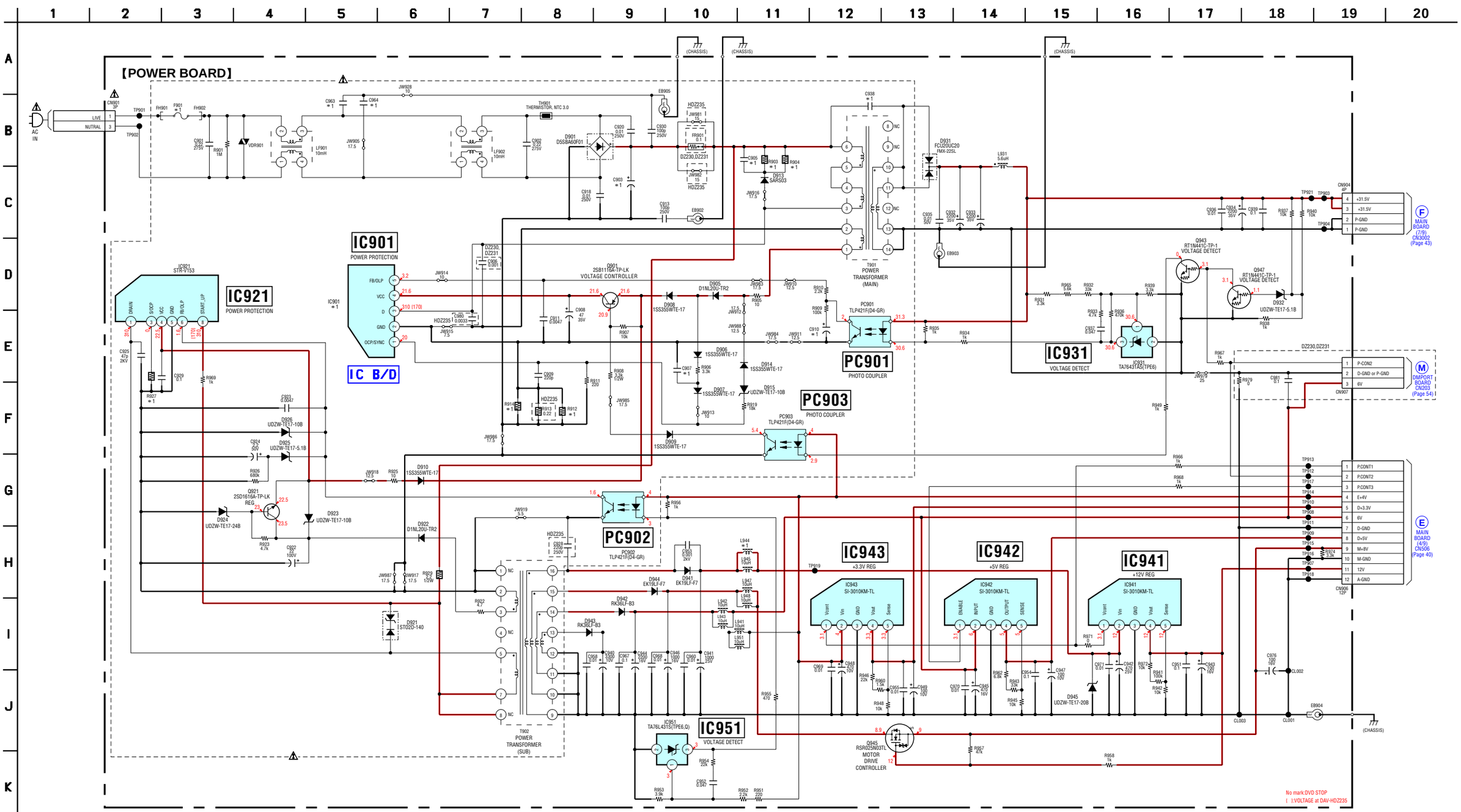
:Uses unleaded solder.

【POWER BOARD】


F MAIN BOARD CN3002 (Page 36)
DZ230,DZ231
M DMPORT BOARD CN203 (Page 54)
E MAIN BOARD CN506 (Page 36)
(CHASSIS)
EB901
EB903
EB904
EB905
EB906
EB902
CN901
CN904
CN907
CN906
CN903
TP901
TP902
TP903
TP904
TP921
TP907
TP908
TP909
TP910
TP911
TP912
TP913
TP914
TP915
TP916
TP917
TP918
TP919
TP920
FH901
FH902
F901
C901
R901
VDR901
LF901
LF902
C963
C964
C930
C933
C932
C935
C934
C936
C939
L931
D931
HS931
T901
POWER TRANSFORMER (MAIN)
T902
POWER TRANSFORMER (SUB)
IC943
IC942
IC941
IC931
IC951
IC901
IC921
PC901
PC902
PC903
JW905
JW927
JW928
JW911
JW910
JW912
JW916
JW917
JW987
JW981
JW982
JW983
JW984
JW985
JW986
JW988
JW979
JV935
JV940
JV932
JV933
JV934
JV931
JV921
JV920
JV927
JV922
JV923
JV924
JV925
JV926
JV928
JV936
JV937
JV938
JV939
C938
C910
C909
C908
C907
C906
C905
C980
C903
C913
C902
C920
C918
TH901
FR901
D901
D902
D903
D904
D905
D906
D907
D908
D909
D910
D911
D912
D913
D914
D915
D916
D917
D918
D919
D920
D921
D922
D923
D924
D925
D926
D927
D928
D929
D930
D931
D932
D933
D934
D935
D936
D937
D938
D939
D940
D941
D942
D943
D944
D945
D946
D947
D948
D949
D950
D951
D952
D953
D954
D955
D956
D957
D958
D959
D960
D961
D962
D963
D964
D965
D966
D967
D968
D969
D970
D971
D972
R901
R902
R903
R904
R905
R906
R907
R908
R909
R910
R911
R912
R913
R914
R915
R916
R917
R918
R919
R920
R921
R922
R923
R924
R925
R926
R927
R928
R929
R930
R931
R932
R933
R934
R935
R936
R937
R938
R939
R940
R941
R942
R943
R944
R945
R946
R947
R948
R949
R950
R951
R952
R953
R954
R955
R956
R957
R958
R959
R960
R961
R962
R963
R964
R965
R966
R967
R968
R969
R970
R971
R972
R973
R974
R975
R976
R977
R978
R979
R980
R981
C940
C941
C942
C943
C944
C945
C946
C947
C948
C949
C950
C951
C952
C953
C954
C955
C956
C957
C958
C959
C960
C961
C962
C965
C966
C967
C968
C969
C970
C971
C972
C973
C974
C975
C976
C977
C978
C979
C980
C981

6-31. SCHEMATIC DIAGRAM – POWER BOARD –

• See page 60 for IC Block Diagram.



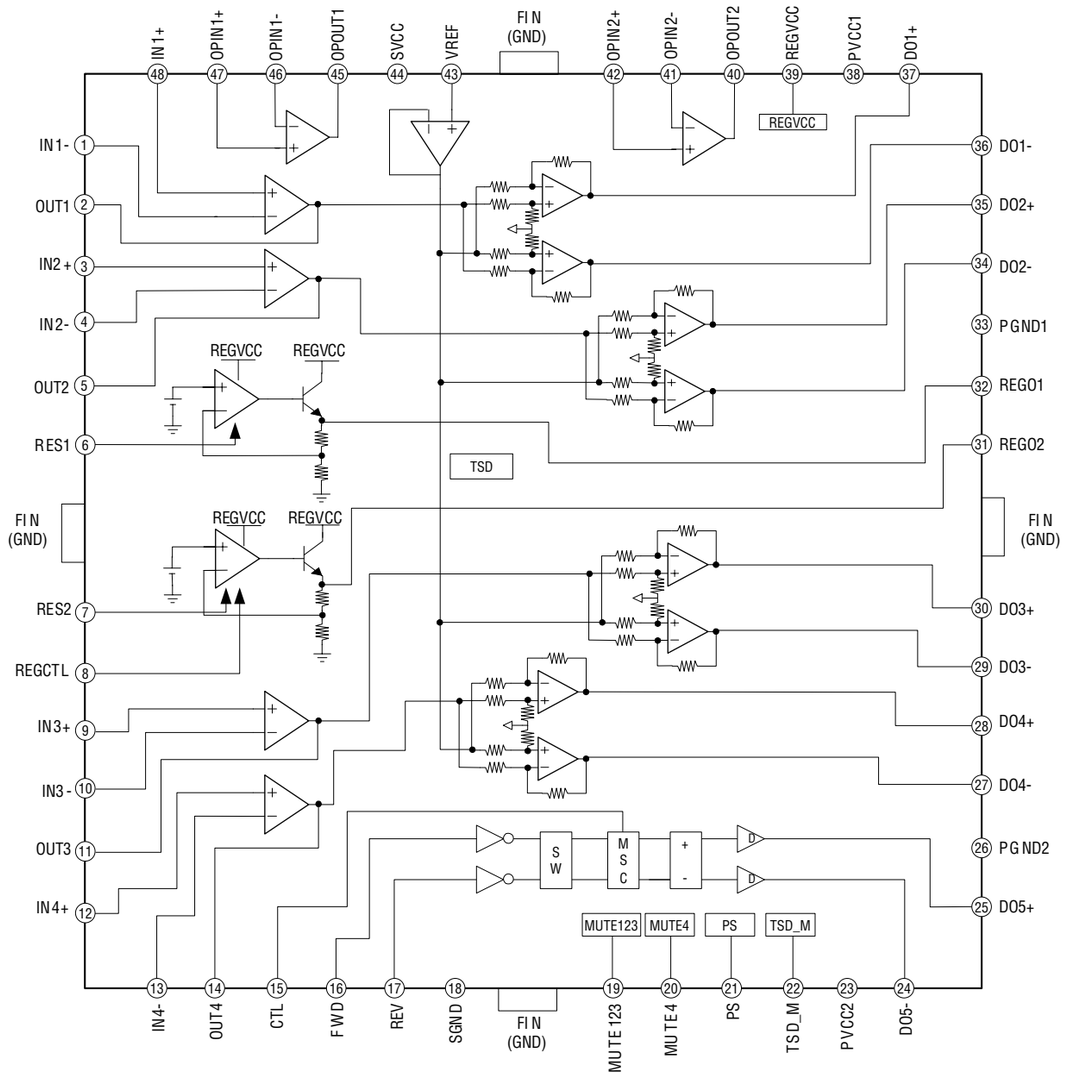
*1

	DZ230/DZ231			HDZ235		
C903	330uF	20%	400V	1000uF	20%	200V
C905	0.0033uF	5%	400V	0.01uF	5%	400V
C907	0.001uF	10%	50V	0.0015uF	10%	50V
C910	22uF	20%	50V	10uF	20%	50V
C938	470PF	10%	250V	330PF	10%	250V
C963	470PF	10%	250V	0.0022uF	20%	250V
C964	470PF	10%	250V	0.0022uF	20%	250V
F901	T6.3AH/250V			8A/125V		
IC901	STR-F6168-LF1352			STR-F6138-LF1352		
R903	100K	5%	3W	33K	5%	3W
R904	100K	5%	3W	33K	5%	3W
R912	0.33	5%	2W	0.22	5%	2W
R914	0.1	10%	5W	0.05	5%	5W
R927	1	5%	1W	0.82	5%	1W

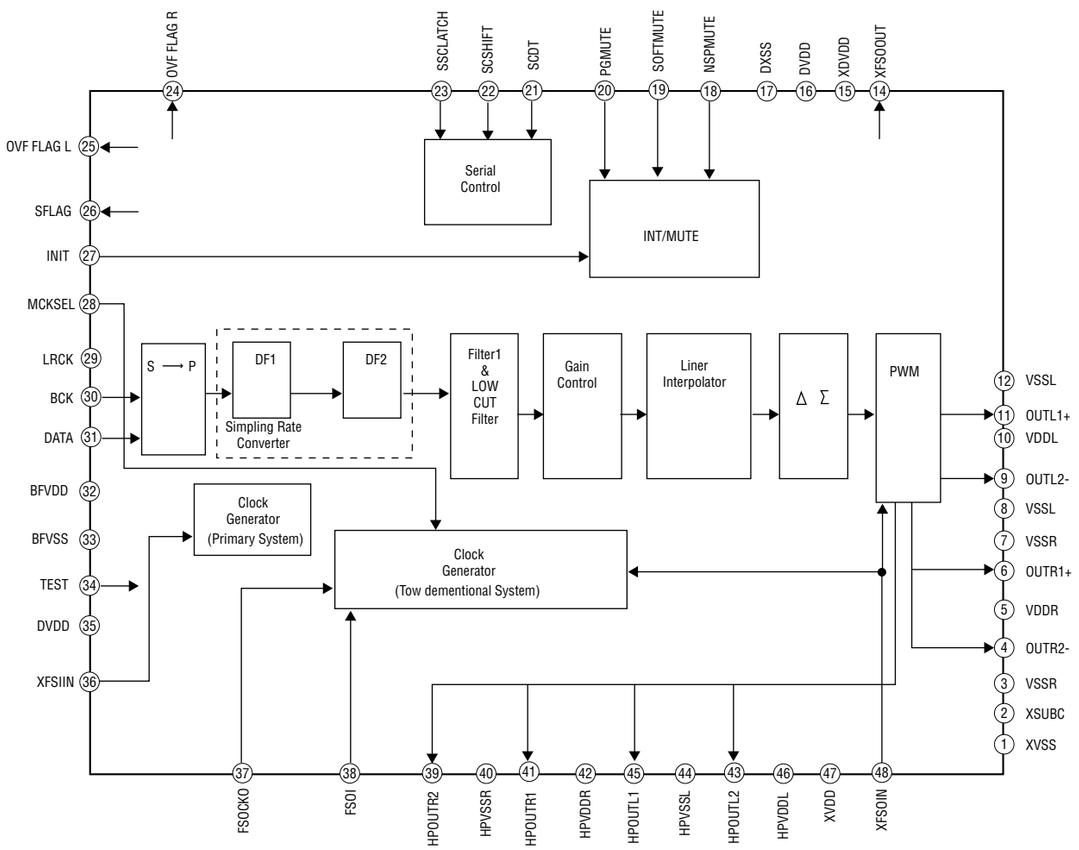
- **IC Block Diagrams**

– MAIN Board –

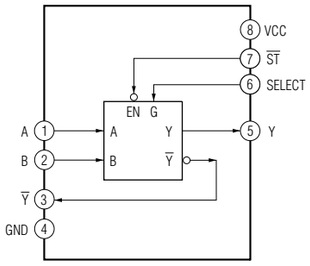
IC1201 FAN8036L



IC3010, IC3020, IC3030 CXD9843AR

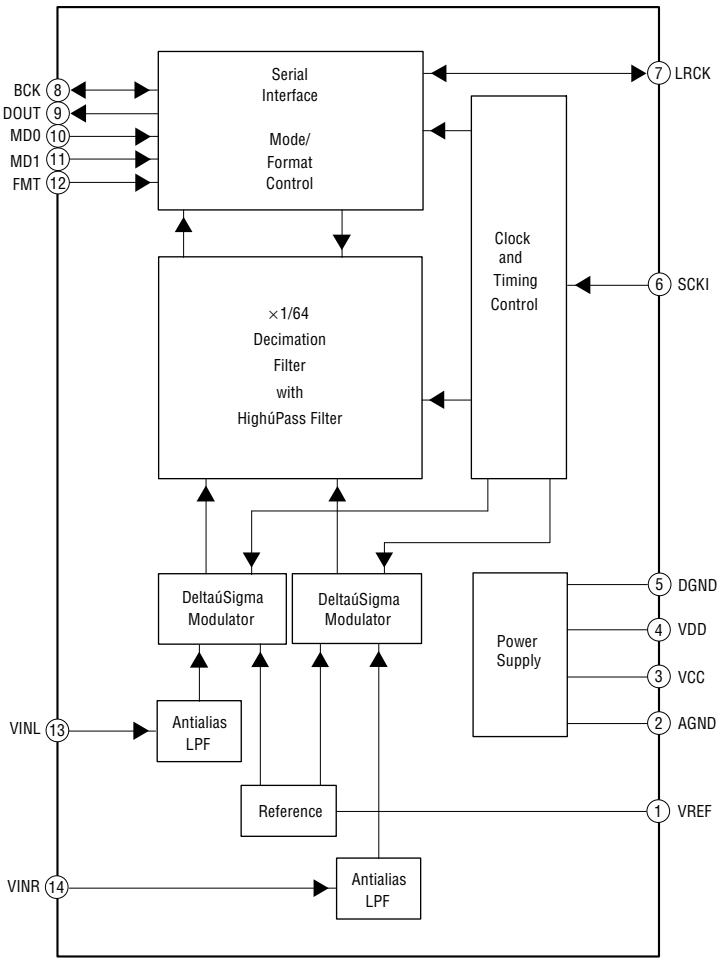


IC3003 TC7WH157FK (TE85R)



– MAIN Board –

IC772 PCM1808PWR

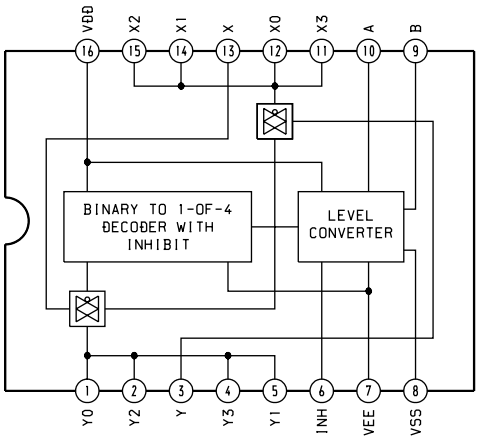


– IO-SCART Board (DZ230/DZ231) –

IC303 MC14052BDR2

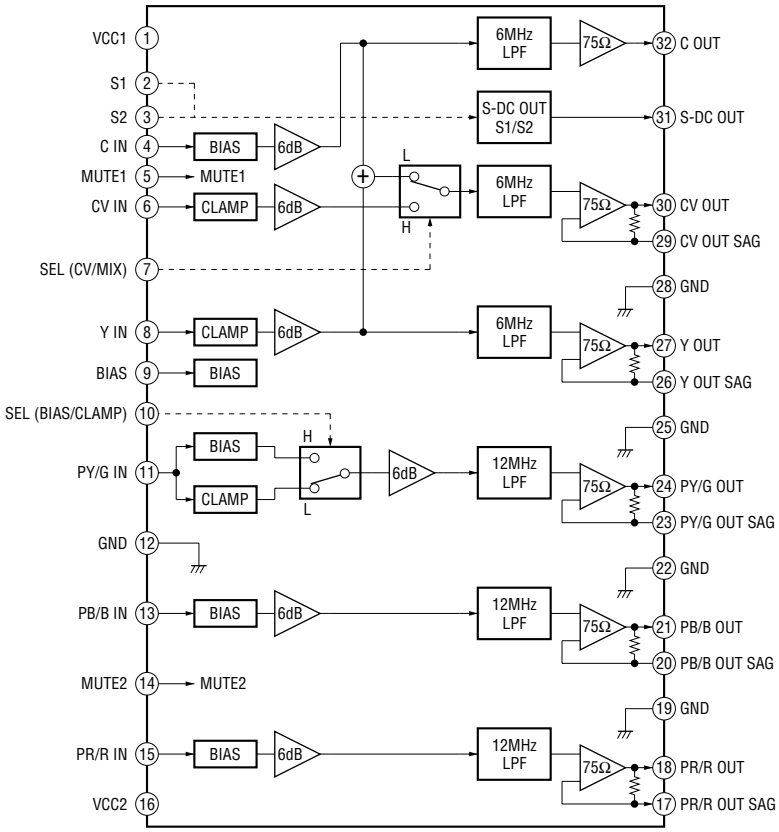
– IO-S-OUT Board (HDZ235) –

IC303 MC14052BDR2



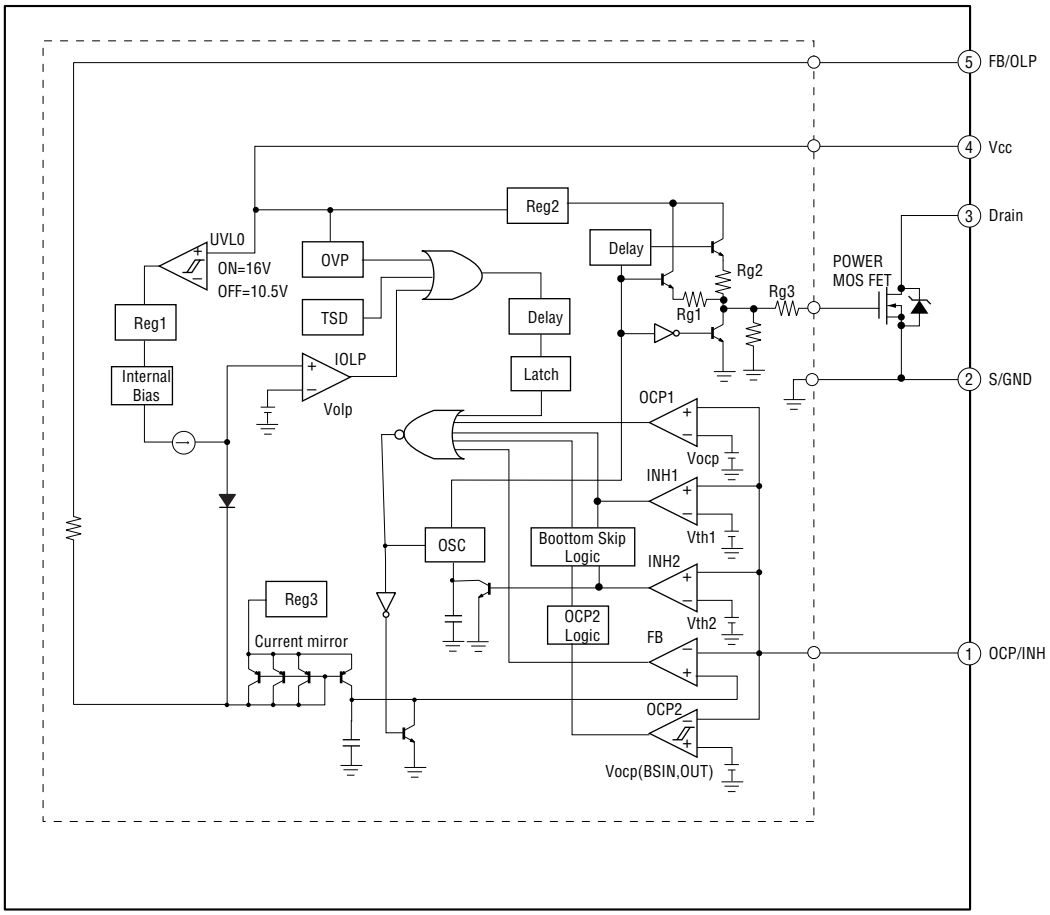
– IO-SCART Board (DZ230/DZ231) –

IC230 BH7868FS-E2



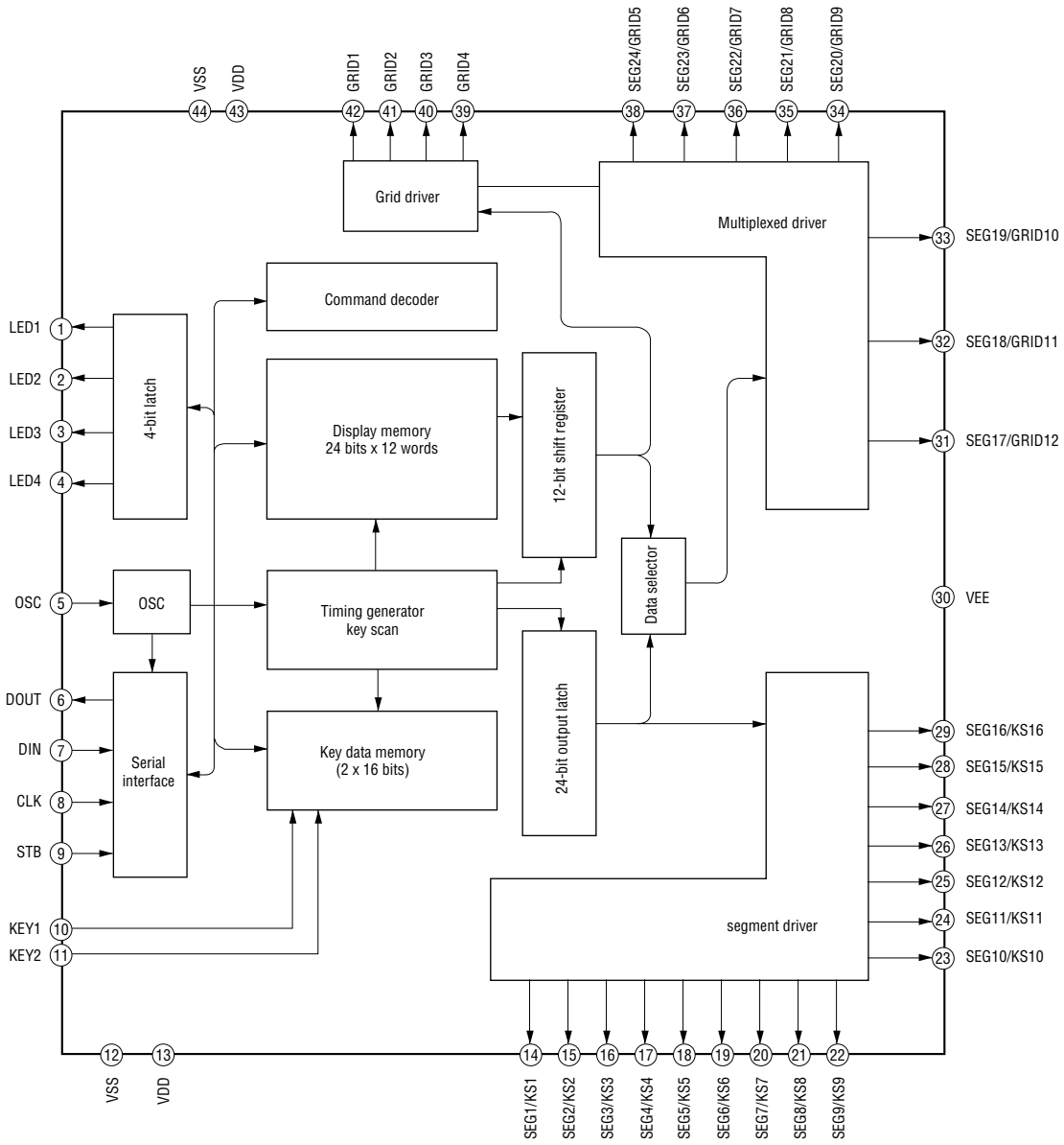
– POWER Board –

IC901 STR-F6138-LF1352



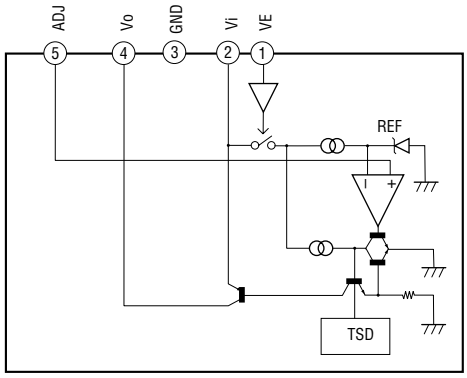
– FL Board –

IC802 uPD16315GB-3BS



– DMPORT Board (DZ230/DZ231) –

IC201 SI-3010KM-TL



• IC Pin Function Description
MAIN BOARD IC1101 CXD9889R
(CD/DVD RF AMP, FOCUS/TRACKING ERR AMP, DVD SYSTEM PROCESSOR, DIGTAL SERVO PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	AGND	—	Ground terminal
2	DVDA	I	AC coupled input path A
3	DVDB	I	AC coupled input path B
4	DVDC	I	AC coupled input path C
5	DVDD	I	AC coupled input path D
6	DVDRFIP	I	AC coupled DVD RF signal input RFIP
7	DVDRFIN	I	AC coupled DVD RF signal input RFIN (not used (Open))
8	NA	I	DC coupled main-beam RF signal input A
9	NB	I	DC coupled main-beam RF signal input B
10	MC	I	DC coupled main-beam RF signal input C
11	MD	I	DC coupled main-beam RF signal input D
12	SA	I	DC coupled sub-beam RF signal input A (not used (Open))
13	SB	I	DC coupled sub-beam RF signal input B (not used (Open))
14	SC	I	DC coupled sub-beam RF signal input C (not used (Open))
15	SD	I	DC coupled sub-beam RF signal input D (not used (Open))
16	SDFON	I	CD focusing error negative input (not used (Open))
17	SDFOP	I	CD focusing error positive input (not used (Open))
18	TNI	I	3 beam satellite PD signal negative input
19	TPI	I	3 beam satellite PD signal positive input
20	MDI1	I	Laser power monitor input
21	MDI2	I	Laser power monitor input
22	LDO2	O	Laser driver output
23	LDO1	O	Laser driver output
24	SVDD3	—	Power supply (RF+3.3V)
25	CSO	O	Central servo (not used (Open))
26	RFLVL	O	RFRP low pass output for jig
27	SGND	—	Ground terminal
28	V2REFO	O	Reference voltage 2.8V
29	V20	O	Reference voltage 2.0V
30	VREFO	O	Reference voltage 1.4V
31	FEO	O	Focus error monitor output for jig
32	TEO	O	Tracking error monitor output for jig
33	TEZISLV	O	TE Slicing Level
34	OP_OUT	O	Op amp output (not used (Open))
35	OP_INN	I	Op amp negative input (not used (Open))
36	OP_INP	I	Op amp positive input (not used (Open))
37	DMO	O	Disc motor control output. PWM output
38	FMO	O	Feed motor control. PWM output
39	TROPENPWM	O	Tray PWM output/Tray open output
40	IOPMON	I	Iop Monitor
41	TRO	O	Tracking servo output
42	FOO	O	Focus servo output
43	VPLLVSS	—	Ground terminal
44	VPLLCAP	—	PLL External Capacitor
45	VPLLVDD3	—	Power supply (+3.3V from IC1105)
46	USB_VSS	—	Ground terminal
47	RESERVED	—	USB port DPLUS pin for HS DL (not used (Open))

Pin No.	Pin Name	I/O	Description
48	RESERVED	—	USB port DMINUS pin for HS DL (not used (Open))
49	USB_VDD3	—	Power supply (SW+3.3V)
50	SPFG	I	Spindle FG input
51	MSW	O	DVD/CD switch (H:DVD / L:CD)
52	CKSW	I	CKSW input
53	OCSW	I	OCSW input
54	EEWP	O	EEPROM Write Protect control (L:Write allowed)
55	DVDD18	—	Power supply (+1.8V from IC1110)
56 to 64	HA2 to 8, 18, 19	O	Host address bus 2 to 8, 18, 19 output to Flash ROM (IC1102)
65	DVDD3	—	Power supply (SW+3.3V)
66	XWR	O	Write enable output to Flash ROM (IC1102) (active Low)
67 to 75	HA16 to 9, 20	O	Host address bus 15 to 9, 20 output to Flash ROM (IC1102)
76	XROMCS	O	Chip select output to Flash ROM (IC1102) (active Low)
77	HA1	O	Host address bus 1 output to Flash ROM (IC1102)
78	XRD	O	Read enable output to Flash ROM (IC1102) (active Low)
79, 80	HD0,1	I/O	Host data bus 0,1 input/output for Flash ROM (IC1102)
81	DVSS	—	Ground terminal
82 to 86	HD2 to 6	I/O	Host data bus 2 to 6 input/output for Flash ROM (IC1102)
87	HA21	O	Host address bus 21 output to Flash ROM (IC1102)
88	RESERVED	—	Not used (Open)
89	HD7	I/O	Host data bus 7 input/output for Flash ROM (IC1102)
90	DVSS	—	Ground terminal
91, 92	HA17, 0	O	Host address bus 17, 0 output to Flash ROM (IC1102)
93	DVDD18	—	Power supply (+1.8V from IC1110)
94	RESERVED	—	Not used (Open)
95	RESERVED	—	Not used (Open)
96	DVDD3	—	Power supply (SW+3.3V)
97	IFSDO	O	Ext. CPU Serial data output (H/W method)
98	IFCK	O	Ext. CPU Serial clock (H/W method)
99	xIFCS	O	Chip select for Ext.CPU (Low Active, H/W method)
100	IFSDI	I	Ext. CPU Serial data input (H/W method)
101	SCL	O	IIC clock output to E2PROM and HDMI controller
102	SDA	I/O	IIC data input/output for E2PROM and HDMI controller
103	HDMI_SCL	O	HDMI DDC line SCL
104	HDMI_SDA	I/O	HDMI DDC line SDA
105	RXD	I	RS232C RXD signal input from Jig
106	TXD	O	RS232C TXD signal output to Jig
107	ICE	O	ICE mode enable (not used (Open))
108	xSYSRST	I	Reset input from system controller (IC501) (active Low)
109	RESERVED	I	IR control signal input (not used (Open))
110	xTXINT	I	Interrupt signal from HDMI controller (not used (Fixed “H” (SW+3.3V)))
111	DQM0	O	Lower byte mask output to SDRAM (IC1104) (H:Mask / L:Enable)
112	IFBSY	I	Ready/Busy interrupt signal input from system controller (IC501) (H:Busy / L:Ready)
113 to 117	RD7 to 3	I/O	Data bus 7 to 3 input/output for SDRAM (IC1104)
118	DVDD3	—	Power supply (SW+3.3V)
119 to 129	RD2 to 0, 15 to 8	I/O	Data bus 2 to 0, 15 to 8 input/output for SDRAM (IC1104)
130	LIMITSW	I	LIMITSW signal input
131	DVDD3	—	Power supply (SW+3.3V)
132	DQM1	O	Upper byte mask output to SDRAM (IC1104) (H:Mask / L:Enable)

Pin No.	Pin Name	I/O	Description
133	RWE#	O	Write enable output to SDRAM (IC1104)
134	CAS#	O	Column address strobe output to SDRAM (IC1104)
135	RAS#	O	Row address strobe output to SDRAM (IC1104)
136	RCS#	O	Chip select output to SDRAM (IC1104)
137, 138	BA0, 1	O	Bank address 0, 1 output to SDRAM (IC1104)
139 to 141	RA10, 0, 1	O	Address bus 10, 0, 1 output to SDRAM (IC1104)
142	DVDD18	—	Power supply (+1.8V from IC1110)
143, 144	RA2, 3	O	Address bus 2, 3 output to SDRAM (IC1104)
145	DVDD3	—	Power supply (SW+3.3V)
146	DRCLK	O	Clock output to SDRAM (IC1104)
147	CKE	O	Clock enable output to SDRAM (IC1104)
148	DVSS	—	Ground terminal
149 to 155	RA11, 9 to 4	O	Address bus 11,9 to 4 output to SDRAM (IC1104)
156	DVDD3	—	Power supply (SW+3.3V)
157 to 159	SMPTE_Y[7] to [5]	O	Video data output bit7 to 5
160	DVDD18	—	Power supply (+1.8V from IC1110)
161 to 165	SMPTE_Y[4] to [0]	O	Video data output bit4 to 0
166	VCLK	O	27MHz synchronous clock output for Video data
167	MIC	I	Karaoke microphone detect signal (H:MIC exist / L:MIC removed) (Fixed to Ground)
168	TSD_M	I	TSD signal input
169	MUTE	O	Mute output for Spindle motor
170	DVDD3	—	Power supply (SW+3.3V)
171	MUTE123	O	Mute output for Focus/Tracking/Sleding
172, 173	REV, FWD	O	Direction control signal output for Loading motor
174	DVDD18	—	Power supply (+1.8V from IC1110)
175	RGB_SEL	O	RGB/YCbCr select output signal (H:RGB disable / L:RGB enable) (HDZ235:not used (Open))
176	Fixed_low	O	Reserved (not used (Open))
177	WIDE	O	WIDE select output for Multi connector (H:16:9 / L:4:3)
178	DVSS	—	Ground terminal
179	VBUS_OE	O	VBUS_control OE (H:ON / L:OFF) (not used (Open))
180	xMAMUTE	O	Main Audio Mute signal (H:Un Mute / L:Mute) (not used (Open))
181	VBUS_OC	I	VBUS_control OC (H: Non_OVER / L:OVER) (Fixed to “H” (SW+3.3V))
182	R/Cr/Pr	O	Red or CR signal output
183	B/Cb/Pb	O	Blue or CB signal output
184	DACVSSA	—	Ground terminal
185	Y/G	O	Green or Y signal output
186	DACVDDA	—	Power supply (+3.3V from IC1105)
187	CVBS	O	Composite video signal output
188	DACVSSB	—	Ground terminal
189	C	O	Chroma signal output for S-Video
190	DACVDDB	—	Power supply (+3.3V from IC1105)
191	Y	O	Y signal output for S-Video
192	DACVSSC	—	Ground terminal
193	CIN	O	Compensation Capacitor (not used)
194	FS	I	Full Scale Adjustment
195	VREF	I	Bandgap Ref Voltage (No connect)
196	DACVDDC	—	Power supply (+3.3V from IC1105)
197	ASDATA0	O	Audio serial data 4: Down-mixed L/R

Pin No.	Pin Name	I/O	Description
198	TRG_SW	I	Slot-in MECHA Triger SW detect (not used (Fixed to “H” (SW+3.3V)))
199	SCORE	I	Calculation of SCORE (not used (Fixed to Ground))
200	XVOICE	I	Detection of MIC signal (H:Voice exist / L:Voice is absence) (not used (Fixed to Ground))
201	Fixed_Low	—	Not used (Open)
202	ASDATA1	O	Audio serial data 1: SL/SR
203	ASDATA2	O	Audio serial data 2: C/SW
204	Fixed_Low	—	Not used (Open)
205	Fixed_Low	—	Not used (Open)
206	Fixed_Low	—	Not used (Open)
207	Fixed_Low	—	Not used (Open)
208	DVDD3	—	Power supply (SW+3.3V)
209	ALRCK	O	Audio left/right channel clock output
210	ABCK	O	Audio bit clock output
211	ACLK	O	Master clock output for Audio DAC
212	ADIN	I	Ex. Analog Audio data input
213	DVDD18	—	Power supply (+1.8V from IC1110)
214	ASDATA4	O	Audio serial data 0: FL/FR
215	MC_DATA	I	Mic signal Input (not used (Fixed to Ground))
216	SPDIF	O	SPDIF output
217	APLLVDD3	—	Power supply (+3.3V from IC1105)
218	APLLCAP	I	APLL External Capacitance connection
219	APLLVSS	—	Ground terminal
220	ADACVSS2	—	Ground terminal
221	ADACVSS1	—	Ground terminal
222	KMOD	O	Karaoke mode status output (H:Karaoke / L:Normal) (not used (Open))
223	PWON	O	Power down control signal to HDMI controller
224	Rch	O	Audio DAC Right channel output (not used (Open))
225	AVCM	—	Audio DAC Reference Voltage
226	Lch	O	Audio DAC Left channel output (not used (Open))
227	DSEL	O	Interlace/Progressive select output signal (H:480i / L:480p) (not used (Open))
228	xRST	O	Reset output signal for ADAC (Low Active) (not used (Open))
229	ADACVDD1	—	Power supply (+3.3V from IC1105)
230	ADACVDD2	—	Power supply (+3.3V from IC1105)
231	RFGND18	—	Ground terminal
232	RFVDD18	—	Power supply (+1.8V from IC1110)
233	XTALO	O	27MHz crystal output (not used (Open))
234	XTALI	I	27MHz crystal input
235	JITFO	O	The output terminal of RF jitter meter
236	JITFN	I	The input terminal of RF jitter meter
237	PLLVSS	—	Ground terminal
238	IDACEXLP	I	RF Data PLL DAC LPF
239	PLLVDD3	—	Power supply (RF+3.3V)
240	LPFON	O	The negative output of loop filter amplifier
241	LPFIP	I	The positive input terminal of loop filter amplifier
242	LPFIN	I	The negative input terminal of loop filter amplifier
243	LPFOP	O	The positive output of loop filter amplifier
244	ADCVDD3	—	Power supply (RF+3.3V)
245	ADCVSS	—	Ground terminal

Pin No.	Pin Name	I/O	Description
246	RFVDD3	—	Power supply (RF+3.3V)
247	RFRPDC	O	RF ripple detect output
248	RFRPAC	I	RF ripple detect input (through AC-coupling)
249	HRFZC	I	High frequency RF ripple zero crossing
250	CRTPLP	O	Defect level filter capacitor connecting
251	RFGND18	—	Ground terminal
252	OSP	O	RF offset cancellation capacitor connecting
253	OSN	O	RF offset cancellation capacitor connecting
254	RFGC	O	RF AGC loop capacitor connecting for DVD-ROM
255	IREF	I	Current reference input
256	AVDD3	—	Power supply (RF+3.3V)

MAIN BOARD IC501 M30622MEP-B02FPU0 (DZ230/DZ231), M30622MEP-B03FPU0 (HDZ235) (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	DAMP_SCDT/ DIAT_SDATA/DIR_DIN	O	DAMP processor data output
2	DAMP_SHIFT/ DIAT_SCLK/DIR_CLK	O	DAMP processor clock output
3	CEC_RX_IN	I	CEC data input
4	SIRCS_IN	I	Sircs input
5	NO USE	O	Not used (Open)
6	NO USE	O	Not used (Open)
7	NO USE	O	Not used (Open)
8	BYTE	I	External data bus (Ground terminal)
9	CNVSS	I	Change processor mode (Pull down)
10, 11	EN_A, EN_B	I	Volume control for ENCODER (Pull up)
12	RESET	I	System reset signal input
13	XOUT	O	Crystal output for main clock (5MHz)
14	VSS	—	Ground terminal
15	XIN	I	Crystal input for main clock (5MHz)
16	VCC	—	Power supply (BUP+3.3V)
17	NMI	I	Not used (Fixed to “H” (+3.3V))
18	NO USE	O	Not used (Open)
19	A.CAL_OUT_LEVEL	I	Out level detect for auto calibration
20	AC_CUT	I	Detect AC-CUT
21	FL_CLK/LED_CLK	O	FL and LED driver clock output
22	CEC_TX_OUT	O	CEC data output
23	NO USE	I	Not used (Fixed to “L”)
24	FL_D_OUT/LED_DATA	O	FL and LED driver data output
25	NO USE	—	Not used (Open)
26	MIC_GAIN	O	MIC gain control
27	CDM_OPEN_SW	I	CDM open switch input
28	DC_CONT	O	A.CAL MIC DC control output
29	CLINK_RX_IN	I	C-Link data input (HDZ235: Not used (Fixed to “L”))
30	CLINK_TX_OUT	O	C-Link data output (HDZ235: Not used)
31	DVD_SID	O	Media Tek data out / Flash write TXD1
32	DVD_SOD	I	Media Tek data in / Flash write RXD1
33	DVD_SCO	I	Media Tek clock in / Flash write CLK1
34	DVD_XIFBUSY	O	Media Tek busy request / Flash write RTS1
35	NO USE	O	Not used (Open)
36	NO USE	O	Not used (Open)
37	DVD XIFCS	I	Media Tek chip select
38	MTK RST	O	Media Tek reset
39	P_CONT1	O	Control for power supply 1
40	P_CONT2	O	Control for power supply 2
41	P_CONT3	O	Control for power supply 3
42	DRIVE_RST(EN)	O	DAMP driver reset
43	DRIVE_OCP(DIAG)	I	DAMP driver shut down
44	OVERFLOW1	I	DAMP processor F/C/S over flow detect
45	OVERFLOW2	I	DAMP processor SW over flow detect
46	WRITE CE	I	Flash write CE (not used (Fixed to “H” (+3.3V)))
47	DAMP LATCH1	O	DAMP processor latch1

Pin No.	Pin Name	I/O	Description
48	DAMP LATCH2	O	DAMP processor latch2
49	DAMP LATCH3	O	DAMP processor latch3
50	DAMP INIT	O	DAMP processor reset
51	DAMP SOFT MUTE	O	DAMP processor soft muting
52	HP_SW	I	Headphone detect
53	HP_MUTE	O	Headphone muting
54	NO USE	O	Not used (Open)
55	NO USE	O	Not used (Open)
56	FL_STB	O	FL driver chip select output
57	DC_DET	I	Speaker DC detect input
58	NO USE	O	Not used (Open)
59	NO USE	O	Not used (Open)
60	NO USE	O	Not used (Open)
61	NO USE	O	Not used (Open)
62	VCC	—	Power supply (BUP+3.3V)
63	MIC/A.CAL_SW	I	MIC insert switch
64	VSS	—	Ground terminal
65	NO USE	O	Not used (Open)
66	NO USE	O	Not used (Open)
67	NO USE	O	Not used (Open)
68	TUNED	I	TUNER tuned input
69	ST_CLK	O	TUNER clock output
70	ST_DO	I	TUNER data input
71	ST_CE	O	TUNER chip enable
72	ST_DI	O	TUNER data output
73	NO USE	O	Not used (Open)
74	KEY INT	I	Wakeup from ECO mode by key input
75	RDS_CLK	I	RDS clock input (DZ230/DZ231)
	NO USE	O	Not used (Open)(HDZ235)
76	RDS-DATA	I	RDS data input (DZ230/DZ231)
	NO USE	O	Not used (Open)(HDZ235)
77	NO USE	O	Not used (Fixed to “H” (E3.3V))
78	TV SEL	O	TV control output (DZ230/DZ231)
	NO USE	O	Not used (HDZ235)
79	M_ST	O	LINK (Multi STEREO) control output
80	NO USE	O	Not used
81	ASEL3	O	Audio selector 3
82	V_SEL0	O	Video selector 0
83	V_SEL1	O	Video selector 1
84	ASEL0	O	Audio selector 0
85	ASEL1	O	Audio selector 1
86	ASEL2	O	Audio selector 2 (HDZ235: Not used)
87	NO USE	O	Not used
88	NO USE	O	Not used
89	CLINK_DET	I	C-Link detect input (DZ230/DZ231)
	NO USE	O	Not used (Open)(HDZ235)
90	MONO/ST_DET	I	Front jack MONO or STEREO detect
91	A.CAL MIC LEVEL	I	MIC level detect for auto calibration
92	DESTINATION	I	Destination select input

Pin No.	Pin Name	I/O	Description
93	MODEL	I	Model select input
94	KEY2	I	Key input 2 input
95	KEY1	I	Key input 1 input
96	VSS	—	Ground terminal
97	KEY0	I	Key input 0 input
98	VREF	—	Reference voltage (E3.3V)
99	VCC	—	Power supply (BUP+3.3V)
100	NO USE	O	Not used

SECTION 7
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  CND : Canadian model

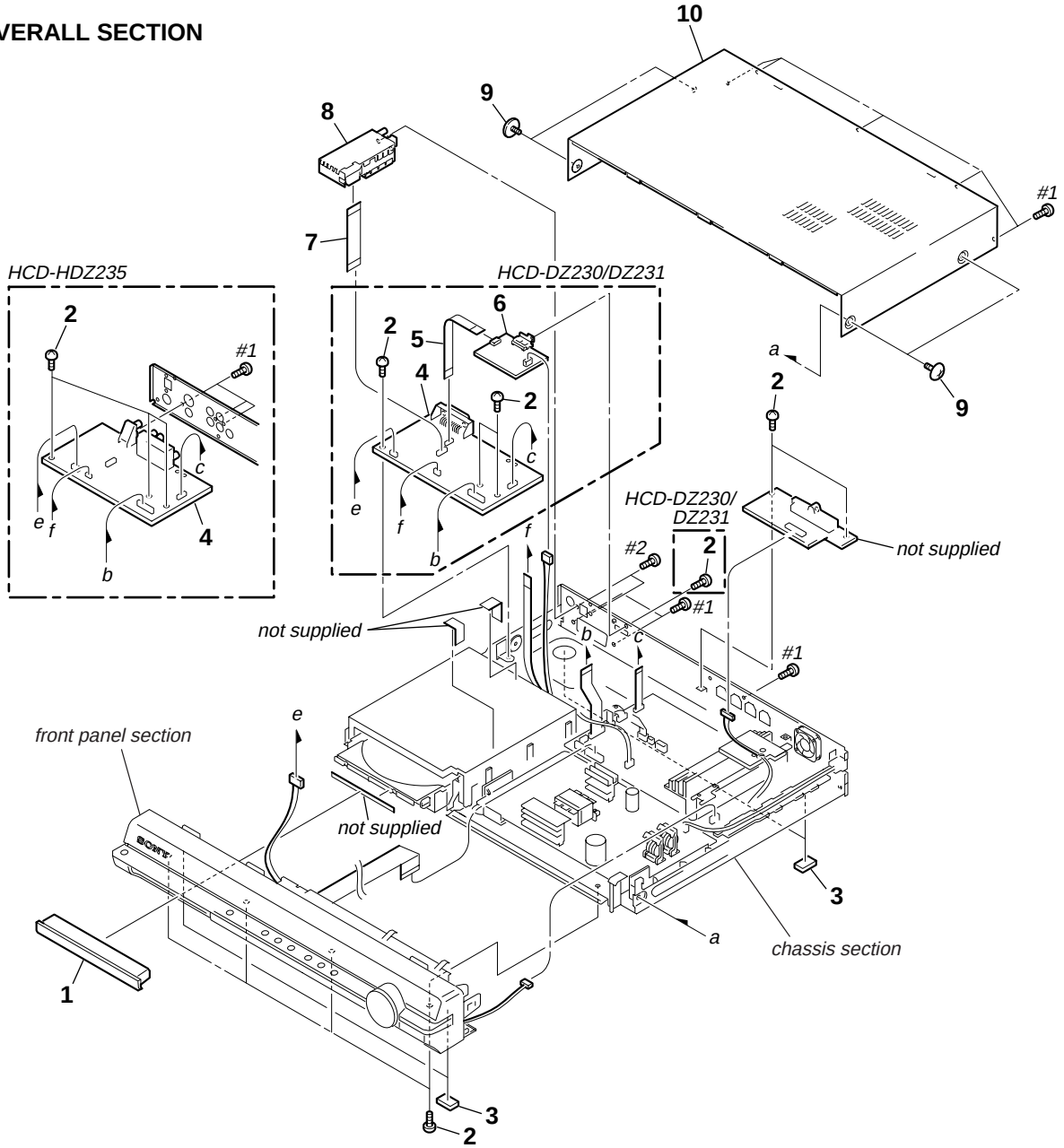
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by mark 🔒 contain confidential information. Strictly follow the instructions whenever the components are repaired and/or replaced.

Les composants identifiés par la marque 🔒 contiennent des informations confidentielles. Suivre scrupuleusement les instructions chaque fois qu'un composant est remplacé et / ou réparé.

7-1. OVERALL SECTION

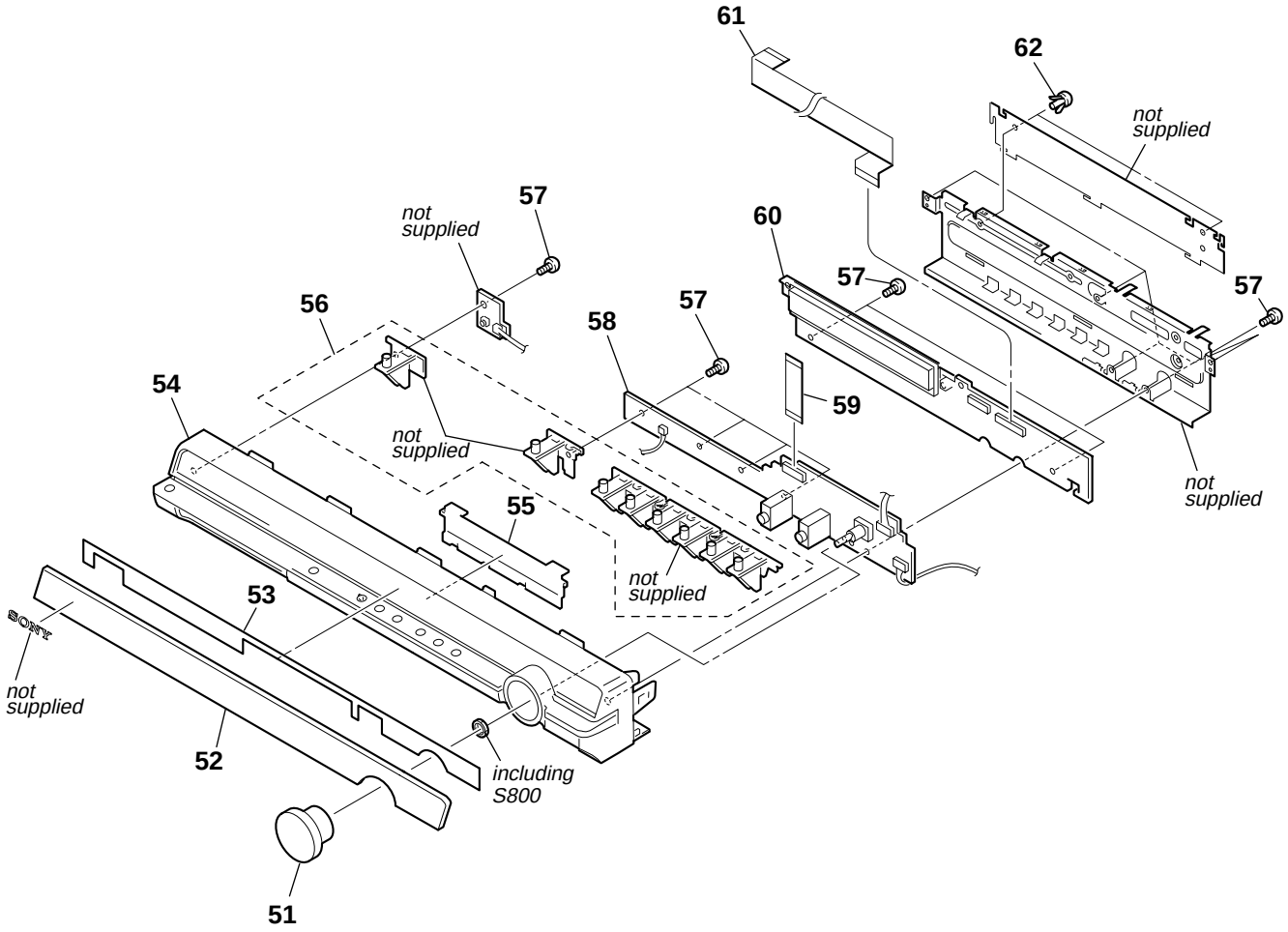


Ref. No.	Part No.	Description	Remark
1	2-889-987-01	PANEL, LOADING (DZ231/HDZ235)	
1	2-889-987-11	PANEL, LOADING (DZ230)	
2	3-077-331-21	+BV3 (3-CR)	
3	4-232-478-31	FOOT	
4	A-1218-023-A	IO-SCART BOARD, COMPLETE (DZ230/DZ231)	
4	A-1236-513-A	IO-S-OUT BOARD, COMPLETE (HDZ235)	
5	1-828-307-51	WIRE (FLAT TYPE)(9 CORE) (DZ230/DZ231)	
6	A-1218-025-A	DMPORT BOARD, COMPLETE (DZ230/DZ231)	
7	1-828-952-51	WIRE (FLAT TYPE)(9 CORE) (HDZ235)	
7	1-828-962-51	WIRE (FLAT TYPE)(11 CORE) (DZ230/DZ231)	

Ref. No.	Part No.	Description	Remark
8	1-693-724-11	TUNER (FM/AM) (DZ230/DZ231)	
8	1-693-731-11	TUNER (FM/AM) (HDZ235)	
9	3-363-099-22	SCREW (CASE 3 TP2) (DZ230)	
9	3-363-099-51	SCREW (CASE 3 TP2) (DZ231/HDZ235)	
10	2-889-996-11	CASE (DS) (DZ231/HDZ235)	
10	2-889-996-31	CASE (DS) (DZ230)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#2	7-685-862-09	SCREW +BVTT 2.6X6 (S)	

Note: If the wire (flat type) was replaced, fold it some as the wire (flat type) before replacement.

7-2. FRONT PANEL SECTION

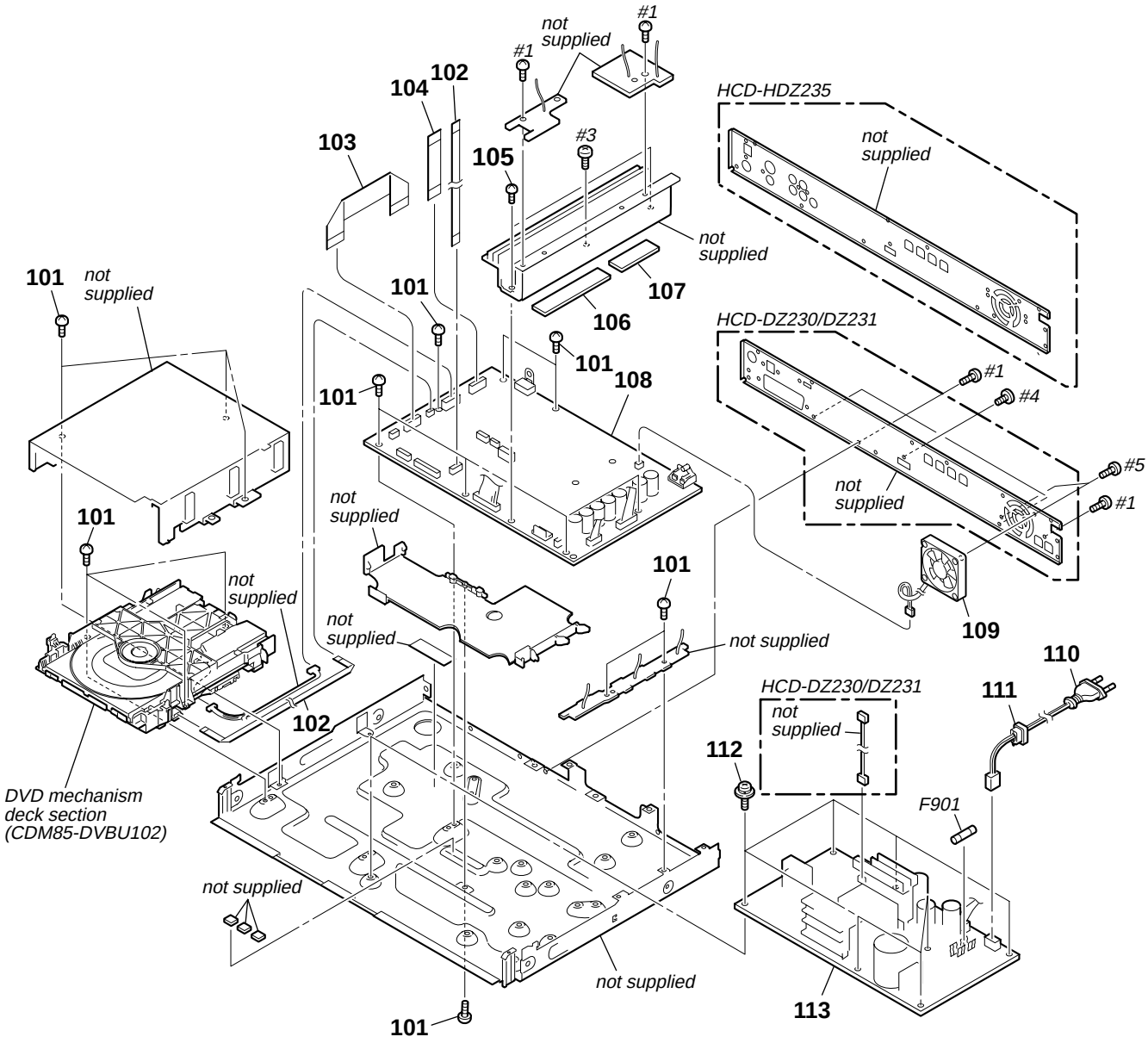


Ref. No.	Part No.	Description	Remark
51	2-889-990-01	KNOB (VOL)	
52	2-889-982-01	WINDOW, INDICATION (INJ) (DZ230)	
52	2-889-982-21	WINDOW, INDICATION (INJ) (HDZ235)	
52	2-889-982-51	WINDOW, INDICATION (INJ) (DZ231)	
53	2-898-988-01	SHEET (DS WINDOW), ADHESIVE	
54	2-889-981-01	PANEL, FRONT (AIO) (DZ230: AEP)	
54	2-889-981-11	PANEL, FRONT (AIO) (DZ230: UK)	
54	2-889-981-41	PANEL, FRONT (AIO) (HDZ235)	
54	2-889-981-51	PANEL, FRONT (AIO) (DZ231: AEP)	
54	2-889-981-61	PANEL, FRONT (AIO) (DZ231: UK)	

Ref. No.	Part No.	Description	Remark
55	2-889-992-01	FILTER, COLOR	
56	2-889-983-01	BUTTON (AIO)	
57	3-087-053-11	+BVTP2.6 (3CR)	
58	A-1218-017-A	JACK BOARD, COMPLETE	
59	1-828-325-51	WIRE (FLAT TYPE)(13 CORE)	
60	A-1218-015-A	FL BOARD, COMPLETE	
61	1-828-374-51	WIRE (FLAT TYPE)(21 CORE)	
62	3-531-576-01	RIVET	

Note: If the wire (flat type) was replaced, fold it some as the wire (flat type) before replacement.

7-3. CHASSIS SECTION

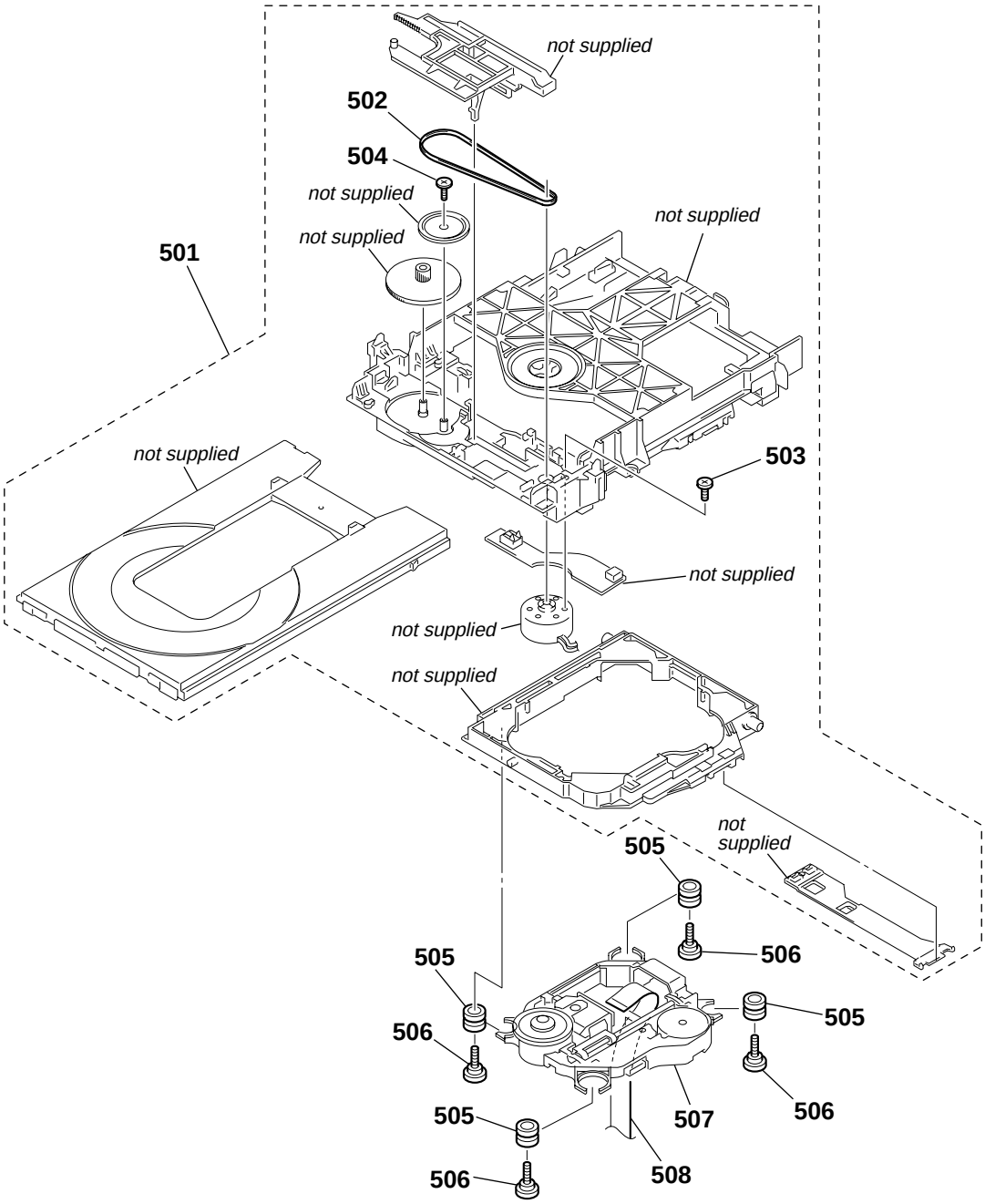


Ref. No.	Part No.	Description	Remark
101	3-077-331-21	+BV3 (3-CR)	
102	1-828-292-51	WIRE (FLAT TYPE)(5 CORE)	
103	1-828-339-51	WIRE (FLAT TYPE)(15 CORE) (HDZ235)	
103	1-828-369-51	WIRE (FLAT TYPE)(21 CORE) (DZ230/DZ231)	
104	1-828-317-51	WIRE (FLAT TYPE)(11 CORE) (HDZ235)	
104	1-828-327-51	WIRE (FLAT TYPE)(13 CORE) (DZ230/DZ231)	
105	3-077-331-11	+BV3 (3-CR)	
106	2-597-972-41	SHEET, RADIATION (HDZ235)	
106	3-100-158-11	SHEET, RADIATION (DZ230/DZ231)	
107	2-597-972-61	SHEET, RADIATION (HDZ235)	
107	3-100-158-21	SHEET, RADIATION (DZ230/DZ231)	
🔒 108	A-1242-239-A	MAIN BOARD, COMPLETE (AEP)	
🔒 108	A-1242-240-A	MAIN BOARD, COMPLETE (UK)	
🔒 108	A-1242-726-A	MAIN BOARD, COMPLETE (HDZ235)	
109	1-787-331-11	FAN, D.C.	

Ref. No.	Part No.	Description	Remark
⚠110	1-751-520-31	CORD, POWER (UK)	
⚠110	1-830-188-11	CORD, POWER (AEP)	
⚠110	1-830-190-11	CORD, POWER (HDZ235)	
⚠111	3-703-244-00	BUSHING (2104), CORD	
112	2-677-839-01	+PWH 3X8 (SUMITITE)	
113	A-1218-005-A	POWER BOARD, COMPLETE (DZ230/DZ231)	
113	A-1228-785-A	POWER BOARD, COMPLETE (HDZ235)	
⚠F901	1-533-311-12	FUSE,GLASS CYLINDRICAL (DIA.5) (8A/125V)	(HDZ235)
⚠F901	1-576-233-51	FUSE (H.B.C.) (T6.3AH/250V)(DZ230/DZ231)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#3	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
#4	7-682-547-04	SCREW +B 3X6	
#5	7-685-881-09	SCREW +BVTT 4X8 (S)	

Note: If the wire (flat type) was replaced, fold it some as the wire (flat type) before replacement.

7-4. DVD MECHANISM DECK SECTION (CDM85-DVBU102)



Ref. No.	Part No.	Description	Remark
501	A-6071-669-A	LOADING ASSY (M)	
502	3-088-371-01	BELT	
503	4-974-725-11	SCREW (M1.7X2.5), P	
504	4-674-137-11	SCREW (PTP2X5)	
505	2-634-618-01	INSULATOR	
506	3-087-599-01	INSULATOR SCREW	
⚠507	8-820-321-05	OPTICAL PICK UP ASSY KHM-313CAA/C2RP	
508	1-828-773-51	WIRE (FLAT TYPE)(24 CORE)	

Note: If the wire (flat type) was replaced, fold it some as the wire (flat type) before replacement.

DMPORT FL

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. ., uPA. . : µPA. .,
  uPB. . : µPB. ., uPC. . : µPC. .,
  uPD. . : µPD. .
- Abbreviation
  CND : Canadian model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

Les composants identifiés par la marque 🔒 contiennent des informations confidentielles.
Suivre scrupuleusement les instructions chaque fois qu'un composant est remplacé et / ou réparé.

Ref. No.	Part No.	Description			Remark
	A-1218-025-A	DMPORT BOARD, COMPLETE (DZ230/DZ231)			
		**********			
		< CAPACITOR >			
C210	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C211	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C212	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C213	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C214	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C220	1-128-995-21	ELECT CHIP	100uF	20%	10V
C221	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C222	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C223	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C229	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C230	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C231	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C232	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C233	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C234	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C235	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C236	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C237	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C238	1-126-395-11	ELECT CHIP	22uF	20%	16V
C239	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C240	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C241	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN201	1-784-861-51	CONNECTOR, FFC (LIF (NON-ZIF)) 9P			
CN203	1-774-730-21	PIN, CONNECTOR (PC BOARD) 3P			
CN204	1-817-615-21	CONNECTOR BOARD TO BOARD 18P			(DMPORT)
		< IC >			
IC201	6-705-308-01	IC SI-3010KM-TL			
IC202	8-759-710-97	IC NJM4565M-D			
		< COIL >			
L200	1-469-525-91	INDUCTOR	10uH		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R203	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R208	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R214	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R215	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R220	1-216-821-11	METAL CHIP	1K	5%	1/10W
R221	1-216-821-11	METAL CHIP	1K	5%	1/10W
R222	1-216-840-11	METAL CHIP	39K	5%	1/10W
R223	1-216-833-11	METAL CHIP	10K	5%	1/10W
R224	1-216-864-11	SHORT CHIP	0		
R225	1-218-887-11	METAL CHIP	47K	0.5%	1/10W
R227	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R228	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R229	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R230	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R231	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R232	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R237	1-216-864-11	SHORT CHIP	0		
R238	1-216-864-11	SHORT CHIP	0		
R239	1-216-864-11	SHORT CHIP	0		
R240	1-216-809-11	METAL CHIP	100	5%	1/10W
R241	1-216-809-11	METAL CHIP	100	5%	1/10W
**********					
	A-1218-015-A	FL BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C435	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C436	1-115-156-11	CERAMIC CHIP	1uF		10V
C800	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C801	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C802	1-126-947-11	ELECT	47uF	20%	35V
C803	1-126-933-11	ELECT	100uF	20%	16V
C804	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C805	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C809	1-126-157-11	ELECT	10uF	20%	16V
C811	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C814	1-126-157-11	ELECT	10uF	20%	16V
C829	1-124-259-11	ELECT	4.7uF	20%	50V

FL IO-SCART

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN801	1-779-558-11	CONNECTOR, FFC (LIF (NON-ZIF)) 21P			
CN805	1-794-506-51	CONNECTOR, FFC/FPC 13P			
		< DIODE >			
D431	6-501-193-01	DIODE 1SS355WTE-17			
D432	6-501-193-01	DIODE 1SS355WTE-17			
D801	6-501-193-01	DIODE 1SS355WTE-17			
D802	6-501-193-01	DIODE 1SS355WTE-17			
D803	6-501-169-01	DIODE UDZW-TE17-6.2B			
D804	6-501-193-01	DIODE 1SS355WTE-17			
D805	6-501-193-01	DIODE 1SS355WTE-17			
		< IC >			
IC801	6-600-349-21	IC NJL23H400A			
IC802	8-759-643-83	IC uPD16315GB-3BS			
		< JUMPER RESISTOR >			
JR801	1-216-864-11	SHORT CHIP	0		
JR802	1-216-864-11	SHORT CHIP	0		
JR807	1-216-864-11	SHORT CHIP	0		
JR808	1-216-864-11	SHORT CHIP	0		
		< COIL >			
L801	1-410-671-31	INDUCTOR	47uH		
L802	1-410-671-31	INDUCTOR	47uH		
		< FLUORESCENT INDICATOR TUBE >			
ND001	1-451-590-11	VACUUM FLUORESCENT DISPLAYS			
		< TRANSISTOR >			
Q801	6-550-065-01	TRANSISTOR	CPH5504-TL-E		
		< RESISTOR >			
R436	1-216-834-11	METAL CHIP	12K	5%	1/10W
R437	1-216-835-11	METAL CHIP	15K	5%	1/10W
R800	1-216-864-11	SHORT CHIP	0		
R801	1-216-839-11	METAL CHIP	33K	5%	1/10W
R802	1-216-809-11	METAL CHIP	100	5%	1/10W
R804	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R805	1-216-295-91	SHORT CHIP	0		
R811	1-216-844-11	METAL CHIP	82K	5%	1/10W
R812	1-216-845-11	METAL CHIP	100K	5%	1/10W
R813	1-216-845-11	METAL CHIP	100K	5%	1/10W
R814	1-216-809-11	METAL CHIP	100	5%	1/10W
R815	1-216-809-11	METAL CHIP	100	5%	1/10W
R816	1-216-809-11	METAL CHIP	100	5%	1/10W
R819	1-216-805-11	METAL CHIP	47	5%	1/10W
R820	1-216-845-11	METAL CHIP	100K	5%	1/10W
		< TRANSFORMER >			
T801	1-443-645-11	TRANSFORMER, DC CONVERTER			

****

Ref. No.	Part No.	Description			Remark
	A-1218-023-A	IO-SCART BOARD, COMPLETE (DZ230/DZ231)			
		**********			
		< CAPACITOR >			
C206	1-126-964-11	ELECT	10uF	20%	50V
C211	1-126-964-11	ELECT	10uF	20%	50V
C221	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C222	1-104-658-91	ELECT	100uF	20%	10V
C224	1-126-964-11	ELECT	10uF	20%	50V
C225	1-126-916-11	ELECT	1000uF	20%	6.3V
C231	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C232	1-126-933-11	ELECT	100uF	20%	16V
C233	1-126-933-11	ELECT	100uF	20%	16V
C234	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C238	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C239	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C240	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C244	1-126-916-11	ELECT	1000uF	20%	6.3V
C245	1-126-916-11	ELECT	1000uF	20%	6.3V
C246	1-126-916-11	ELECT	1000uF	20%	6.3V
C271	1-126-933-11	ELECT	100uF	20%	16V
C295	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C296	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C304	1-126-947-11	ELECT	47uF	20%	35V
C320	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C324	1-104-662-91	ELECT	22uF	20%	25V
C325	1-104-662-91	ELECT	22uF	20%	25V
C326	1-104-662-91	ELECT	22uF	20%	25V
C327	1-104-662-91	ELECT	22uF	20%	25V
C328	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C340	1-104-662-91	ELECT	22uF	20%	25V
C341	1-104-662-91	ELECT	22uF	20%	25V
C342	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C343	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C349	1-126-933-11	ELECT	100uF	20%	16V
C350	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C371	1-104-662-91	ELECT	22uF	20%	25V
C372	1-104-662-91	ELECT	22uF	20%	25V
C373	1-104-662-91	ELECT	22uF	20%	25V
C374	1-104-662-91	ELECT	22uF	20%	25V
C375	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C376	1-104-662-91	ELECT	22uF	20%	25V
C377	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C383	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C384	1-126-933-11	ELECT	100uF	20%	16V
C385	1-126-960-11	ELECT	1uF	20%	50V
C386	1-126-960-11	ELECT	1uF	20%	50V
C387	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C388	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C391	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C392	1-126-933-11	ELECT	100uF	20%	16V
		< CONNECTOR >			
CN301	1-779-277-11	CONNECTOR, FFC (LIF (NON-ZIF)) 9P			
CN302	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CN304	1-779-281-11	CONNECTOR, FFC (LIF (NON-ZIF)) 13P			
CN305	1-568-830-11	CONNECTOR, FFC 11P (TUNER)			
CN307	1-779-273-11	CONNECTOR, FFC (LIF (NON-ZIF)) 5P			

IO-SCART **IO-S-OUT**

Ref. No.	Part No.	Description			Remark
CN308	1-779-289-11	CONNECTOR, FFC (LIF (NON-ZIF)) 21P			
		< DIODE >			
D271	6-501-193-01	DIODE 1SS355WTE-17			
D272	6-501-193-01	DIODE 1SS355WTE-17			
D309	8-719-058-24	DIODE RB501V-40TE-17			
		< IC >			
IC202	6-703-622-01	IC MM1508XNRE			
IC230	6-707-489-01	IC BH7868FS-E2			
IC303	8-759-385-76	IC MC14052 BDR2			
IC306	8-759-100-96	IC uPC4558G2			
IC307	6-703-550-01	IC TA7809LS			
		< JACK >			
J230	1-816-044-11	CONNECTOR, SQUARE TYPE 21P (EURO AV / ⇨ OUTPUT(TO TV))			
		< COIL >			
L221	1-469-525-91	INDUCTOR	10uH		
L231	1-469-525-91	INDUCTOR	10uH		
L304	1-469-525-91	INDUCTOR	10uH		
		< TRANSISTOR >			
Q271	1-801-806-11	TR DTC144EKA			
Q272	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q273	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q274	1-801-806-11	TR DTC144EKA			
Q275	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q276	1-801-806-11	TR DTC144EKA			
Q279	8-729-027-52	TRANSISTOR	DTC124EKA-T146		
Q305	8-729-027-52	TRANSISTOR	DTC124EKA-T146		
Q307	8-729-027-52	TRANSISTOR	DTC124EKA-T146		
		< RESISTOR >			
R210	1-218-285-11	METAL CHIP	75	5%	1/10W
R211	1-218-285-11	METAL CHIP	75	5%	1/10W
R212	1-218-285-11	METAL CHIP	75	5%	1/10W
R221	1-216-864-11	SHORT CHIP	0		
R222	1-216-864-11	SHORT CHIP	0		
R225	1-218-285-11	METAL CHIP	75	5%	1/10W
R244	1-218-285-11	METAL CHIP	75	5%	1/10W
R245	1-218-285-11	METAL CHIP	75	5%	1/10W
R246	1-218-285-11	METAL CHIP	75	5%	1/10W
R250	1-216-864-11	SHORT CHIP	0		
R271	1-216-821-11	METAL CHIP	1K	5%	1/10W
R272	1-216-841-11	METAL CHIP	47K	5%	1/10W
R273	1-216-849-11	METAL CHIP	220K	5%	1/10W
R274	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R275	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R276	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R277	1-216-821-11	METAL CHIP	1K	5%	1/10W
R278	1-216-837-11	METAL CHIP	22K	5%	1/10W
R279	1-216-815-11	METAL CHIP	330	5%	1/10W
R280	1-216-815-11	METAL CHIP	330	5%	1/10W
R281	1-216-815-11	METAL CHIP	330	5%	1/10W
R282	1-216-815-11	METAL CHIP	330	5%	1/10W

Ref. No.	Part No.	Description			Remark
R285	1-216-833-11	METAL CHIP	10K	5%	1/10W
R303	1-216-864-11	SHORT CHIP	0		
R308	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R309	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R310	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R311	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R316	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R320	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R321	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R324	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R332	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R335	1-216-841-11	METAL CHIP	47K	5%	1/10W
R336	1-216-841-11	METAL CHIP	47K	5%	1/10W
R337	1-216-841-11	METAL CHIP	47K	5%	1/10W
R338	1-216-841-11	METAL CHIP	47K	5%	1/10W
R341	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R344	1-216-841-11	METAL CHIP	47K	5%	1/10W
R345	1-216-841-11	METAL CHIP	47K	5%	1/10W
R346	1-216-841-11	METAL CHIP	47K	5%	1/10W
R347	1-216-841-11	METAL CHIP	47K	5%	1/10W
R351	1-216-864-11	SHORT CHIP	0		
R363	1-216-841-11	METAL CHIP	47K	5%	1/10W
R364	1-216-841-11	METAL CHIP	47K	5%	1/10W
R365	1-216-841-11	METAL CHIP	47K	5%	1/10W
R366	1-216-841-11	METAL CHIP	47K	5%	1/10W
R380	1-216-864-11	SHORT CHIP	0		
R384	1-216-864-11	SHORT CHIP	0		
R392	1-216-833-11	METAL CHIP	10K	5%	1/10W
R394	1-216-821-11	METAL CHIP	1K	5%	1/10W
R396	1-216-833-11	METAL CHIP	10K	5%	1/10W
R398	1-216-841-11	METAL CHIP	47K	5%	1/10W
R399	1-216-841-11	METAL CHIP	47K	5%	1/10W
R400	1-216-821-11	METAL CHIP	1K	5%	1/10W
R402	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R403	1-216-845-11	METAL CHIP	100K	5%	1/10W
R404	1-216-845-11	METAL CHIP	100K	5%	1/10W
R405	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R406	1-216-845-11	METAL CHIP	100K	5%	1/10W
R407	1-216-845-11	METAL CHIP	100K	5%	1/10W
R408	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R409	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R410	1-216-841-11	METAL CHIP	47K	5%	1/10W
R411	1-216-841-11	METAL CHIP	47K	5%	1/10W
R412	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R413	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R414	1-216-817-11	METAL CHIP	470	5%	1/10W
R415	1-216-817-11	METAL CHIP	470	5%	1/10W
R416	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R417	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R420	1-216-817-11	METAL CHIP	470	5%	1/10W
R421	1-216-817-11	METAL CHIP	470	5%	1/10W
**********					
	A-1236-513-A	IO-S-OUT BOARD, COMPLETE (HDZ235)			
		**********			
		< CAPACITOR >			
C222	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

IO-S-OUT

Ref. No.	Part No.	Description			Remark
C228	1-126-916-11	ELECT	1000uF	20%	6.3V
C251	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C302	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C311	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C321	1-104-662-91	ELECT	22uF	20%	25V
C322	1-104-662-91	ELECT	22uF	20%	25V
C330	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C331	1-126-916-11	ELECT	1000uF	20%	6.3V
C332	1-126-933-11	ELECT	100uF	20%	16V
C333	1-126-933-11	ELECT	100uF	20%	16V
C334	1-126-916-11	ELECT	1000uF	20%	6.3V
C340	1-104-662-91	ELECT	22uF	20%	25V
C341	1-104-662-91	ELECT	22uF	20%	25V
C347	1-126-925-91	ELECT	470uF	20%	10V
C348	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C349	1-126-933-11	ELECT	100uF	20%	16V
C350	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C351	1-126-933-11	ELECT	100uF	20%	16V
C352	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C355	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C357	1-126-964-11	ELECT	10uF	20%	50V
C358	1-126-964-11	ELECT	10uF	20%	50V
C359	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C360	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C361	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C371	1-104-662-91	ELECT	22uF	20%	25V
C372	1-104-662-91	ELECT	22uF	20%	25V
C373	1-104-662-91	ELECT	22uF	20%	25V
C374	1-104-662-91	ELECT	22uF	20%	25V
C376	1-104-662-91	ELECT	22uF	20%	25V
C383	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C384	1-126-933-11	ELECT	100uF	20%	16V
C385	1-126-960-11	ELECT	1uF	20%	50V
C386	1-126-960-11	ELECT	1uF	20%	50V
C387	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C388	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C389	1-126-947-11	ELECT	47uF	20%	35V
C390	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C391	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C392	1-126-933-11	ELECT	100uF	20%	16V
		< CONNECTOR >			
CN303	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CN304	1-779-279-11	CONNECTOR, FFC (LIF (NON-ZIF)) 11P			
CN305	1-568-828-11	CONNECTOR, FFC 9P (TUNER)			
CN307	1-779-273-11	CONNECTOR, FFC (LIF (NON-ZIF)) 5P			
CN310	1-779-283-11	CONNECTOR, FFC (LIF (NON-ZIF)) 15P			
		< DIODE >			
D280	6-501-193-01	DIODE 1SS355WTE-17			
D281	6-501-193-01	DIODE 1SS355WTE-17			
D309	8-719-058-24	DIODE RB501V-40TE-17			
		< IC >			
IC303	8-759-385-76	IC MC14052 BDR2			
IC306	8-759-100-96	IC uPC4558G2			
IC307	6-703-550-01	IC TA7809LS			
IC308	6-710-470-01	IC MM1758AFBE			

Ref. No.	Part No.	Description			Remark
		< JACK >			
J301	1-694-920-11	TERMINAL BOARD (S TERMINAL+1P) (MONITOR OUT)			
J303	1-820-784-11	JACK, PIN 5P (COMPONENT VIDEO OUT)			
		< COIL >			
L201	1-469-525-91	INDUCTOR	10uH		
L304	1-469-525-91	INDUCTOR	10uH		
		< TRANSISTOR >			
Q305	8-729-027-52	TRANSISTOR	DTC124EKA-T146		
Q307	8-729-027-52	TRANSISTOR	DTC124EKA-T146		
		< RESISTOR >			
R227	1-218-285-11	METAL CHIP	75	5%	1/10W
R228	1-218-285-11	METAL CHIP	75	5%	1/10W
R229	1-218-285-11	METAL CHIP	75	5%	1/10W
R306	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R307	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R312	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R314	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R321	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R323	1-218-285-11	METAL CHIP	75	5%	1/10W
R324	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R325	1-216-864-11	SHORT CHIP	0		
R326	1-218-285-11	METAL CHIP	75	5%	1/10W
R332	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R333	1-216-841-11	METAL CHIP	47K	5%	1/10W
R334	1-216-841-11	METAL CHIP	47K	5%	1/10W
R339	1-218-285-11	METAL CHIP	75	5%	1/10W
R341	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R342	1-216-841-11	METAL CHIP	47K	5%	1/10W
R343	1-216-841-11	METAL CHIP	47K	5%	1/10W
R348	1-216-833-11	METAL CHIP	10K	5%	1/10W
R360	1-216-821-11	METAL CHIP	1K	5%	1/10W
R363	1-216-841-11	METAL CHIP	47K	5%	1/10W
R364	1-216-841-11	METAL CHIP	47K	5%	1/10W
R365	1-216-841-11	METAL CHIP	47K	5%	1/10W
R366	1-216-841-11	METAL CHIP	47K	5%	1/10W
R375	1-216-864-11	SHORT CHIP	0		
R378	1-216-864-11	SHORT CHIP	0		
R392	1-216-833-11	METAL CHIP	10K	5%	1/10W
R394	1-216-821-11	METAL CHIP	1K	5%	1/10W
R396	1-216-833-11	METAL CHIP	10K	5%	1/10W
R398	1-216-833-11	METAL CHIP	10K	5%	1/10W
R399	1-216-833-11	METAL CHIP	10K	5%	1/10W
R400	1-216-821-11	METAL CHIP	1K	5%	1/10W
R402	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R403	1-216-845-11	METAL CHIP	100K	5%	1/10W
R404	1-216-845-11	METAL CHIP	100K	5%	1/10W
R405	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R406	1-216-845-11	METAL CHIP	100K	5%	1/10W
R407	1-216-845-11	METAL CHIP	100K	5%	1/10W
R408	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R409	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R410	1-216-841-11	METAL CHIP	47K	5%	1/10W
R411	1-216-841-11	METAL CHIP	47K	5%	1/10W

IO-S-OUT **JACK**

Ref. No.	Part No.	Description			Remark
R412	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R413	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R414	1-216-864-11	SHORT CHIP	0		
R415	1-216-864-11	SHORT CHIP	0		
R416	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R417	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R420	1-216-817-11	METAL CHIP	470	5%	1/10W
R421	1-216-817-11	METAL CHIP	470	5%	1/10W
R426	1-216-864-11	SHORT CHIP	0		
R427	1-216-864-11	SHORT CHIP	0		
R438	1-216-833-11	METAL CHIP	10K	5%	1/10W

****

A-1218-017-A JACK BOARD, COMPLETE
****

< CAPACITOR >

C401	1-124-589-11	ELECT	47uF	20%	16V
C403	1-124-584-00	ELECT	100uF	20%	10V
C404	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C405	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C410	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C411	1-126-157-11	ELECT	10uF	20%	16V
C412	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C413	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C420	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C421	1-126-157-11	ELECT	10uF	20%	16V
C422	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C423	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C431	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C432	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C433	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C434	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C450	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C460	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C471	1-124-222-91	ELECT	22uF	20%	6.3V
C491	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C493	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C849	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C850	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

< CONNECTOR >

CN806	1-779-550-21	CONNECTOR, FFC (LIF (NON-ZIF)) 13P			

< DIODE >

D470	6-501-193-01	DIODE 1SS355WTE-17			
D492	6-501-193-01	DIODE 1SS355WTE-17			
D493	6-501-193-01	DIODE 1SS355WTE-17			
D496	6-501-193-01	DIODE 1SS355WTE-17			
D497	6-501-193-01	DIODE 1SS355WTE-17			

< FERRITE BEAD >

FB450	1-216-864-11	SHORT CHIP	0		
FB460	1-216-864-11	SHORT CHIP	0		
FB470	1-500-236-22	BEAD, FERRITE (CHIP) (1608)			
FB471	1-500-236-22	BEAD, FERRITE (CHIP) (1608)			
FB474	1-500-236-22	BEAD, FERRITE (CHIP) (1608)			
FB475	1-500-236-22	BEAD, FERRITE (CHIP) (1608)			
FB479	1-500-236-22	BEAD, FERRITE (CHIP) (1608)			

< IC >

IC401	8-759-100-96	IC uPC4558G2			
IC402	8-759-100-96	IC uPC4558G2			

< JACK >

J401	1-819-878-31	JACK (AUDIO IN/A.CAL MIC)			
J402	1-819-878-31	JACK (PHONES)			

< JUMPER RESISTOR >

JR816	1-216-864-11	SHORT CHIP	0		

< TRANSISTOR >

Q450	6-550-889-01	TRANSISTOR	2SC5938-T112-1B		
Q451	6-550-889-01	TRANSISTOR	2SC5938-T112-1B		
Q460	6-550-889-01	TRANSISTOR	2SC5938-T112-1B		
Q461	6-550-889-01	TRANSISTOR	2SC5938-T112-1B		
Q470	1-801-806-11	TR DTC144EKA			
Q471	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q473	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q474	8-729-027-24	TRANSISTOR	DTA114TKA-T146		
Q475	1-801-806-11	TR DTC144EKA			

< RESISTOR >

R401	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R402	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R403	1-216-821-11	METAL CHIP	1K	5%	1/10W
R410	1-216-845-11	METAL CHIP	100K	5%	1/10W
R411	1-216-817-11	METAL CHIP	470	5%	1/10W
R412	1-216-837-11	METAL CHIP	22K	5%	1/10W
R413	1-216-821-11	METAL CHIP	1K	5%	1/10W
R414	1-216-835-11	METAL CHIP	15K	5%	1/10W
R415	1-216-821-11	METAL CHIP	1K	5%	1/10W
R416	1-216-801-11	METAL CHIP	22	5%	1/10W
R420	1-216-845-11	METAL CHIP	100K	5%	1/10W
R421	1-216-817-11	METAL CHIP	470	5%	1/10W
R422	1-216-837-11	METAL CHIP	22K	5%	1/10W
R423	1-216-821-11	METAL CHIP	1K	5%	1/10W
R424	1-216-821-11	METAL CHIP	1K	5%	1/10W
R431	1-216-864-11	SHORT CHIP	0		
R432	1-216-837-11	METAL CHIP	22K	5%	1/10W
R433	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R434	1-216-864-11	SHORT CHIP	0		
R435	1-216-857-11	METAL CHIP	1M	5%	1/10W
R444	1-216-864-11	SHORT CHIP	0		
R445	1-216-864-11	SHORT CHIP	0		
R450	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R451	1-216-801-11	METAL CHIP	22	5%	1/10W
R452	1-216-805-11	METAL CHIP	47	5%	1/10W
R453	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R454	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R460	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R461	1-216-801-11	METAL CHIP	22	5%	1/10W
R462	1-216-805-11	METAL CHIP	47	5%	1/10W
R463	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R464	1-216-829-11	METAL CHIP	4.7K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R470	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R471	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R472	1-216-819-11	METAL CHIP	680	5%	1/10W
R478	1-216-809-11	METAL CHIP	100	5%	1/10W
R480	1-216-805-11	METAL CHIP	47	5%	1/10W
R481	1-216-845-11	METAL CHIP	100K	5%	1/10W
R482	1-216-833-11	METAL CHIP	10K	5%	1/10W
R490	1-216-864-11	SHORT CHIP	0		
R491	1-216-864-11	SHORT CHIP	0		
R492	1-216-864-11	SHORT CHIP	0		
R851	1-216-864-11	SHORT CHIP	0		
R852	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R853	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R854	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R855	1-216-821-11	METAL CHIP	1K	5%	1/10W
R856	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R857	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R858	1-216-864-11	SHORT CHIP	0		
		< SWITCH >			
S800	1-418-725-51	ENCODER, ROTARY (12 TYPE) (VOLUME)			
S802	1-762-875-21	SWITCH, KEYBOARD (FUNCTION)			
S803	1-762-875-21	SWITCH, KEYBOARD (I◀◀)			
S804	1-762-875-21	SWITCH, KEYBOARD (▮▮)			
S805	1-762-875-21	SWITCH, KEYBOARD (■)			
S806	1-762-875-21	SWITCH, KEYBOARD (▶▶I)			
S807	1-762-875-21	SWITCH, KEYBOARD (⏏)			
S808	1-762-875-21	SWITCH, KEYBOARD (▷)			
**********					
🔒	A-1242-239-A	MAIN BOARD, COMPLETE (AEP)			
🔒	A-1242-240-A	MAIN BOARD, COMPLETE (UK)			
🔒	A-1242-726-A	MAIN BOARD, COMPLETE (HDZ235)			
		**********			
		< CAPACITOR >			
C501	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C502	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C503	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C504	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C505	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C506	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C507	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C508	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C509	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C510	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C511	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C515	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C516	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C517	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C518	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C519	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C520	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C521	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C522	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C523	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C524	1-126-947-11	ELECT	47uF	20%	35V
C525	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C526	1-104-658-91	ELECT	100uF	20%	10V

Ref. No.	Part No.	Description			Remark
C527	1-126-916-11	ELECT	1000uF	20%	6.3V
C528	1-126-916-11	ELECT	1000uF	20%	6.3V
C529	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C531	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C532	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C533	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C534	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C535	1-126-947-11	ELECT	47uF	20%	35V
C536	1-126-947-11	ELECT	47uF	20%	35V
C538	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C705	1-126-964-11	ELECT	10uF	20%	50V
C706	1-126-964-11	ELECT	10uF	20%	50V
C707	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C708	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C717	1-126-964-11	ELECT	10uF	20%	50V
C718	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1101	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1102	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1105	1-126-947-11	ELECT	47uF	20%	35V
C1106	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1110	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1112	1-128-994-21	ELECT CHIP	47uF	20%	10V
C1113	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1114	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1115	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1116	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1117	1-124-779-00	ELECT CHIP	10uF	20%	16V
C1118	1-126-964-11	ELECT	10uF	20%	50V
C1119	1-126-964-11	ELECT	10uF	20%	50V
C1120	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C1121	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C1122	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C1123	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C1124	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C1125	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1126	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1127	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1128	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C1130	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1131	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1132	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1133	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1135	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C1136	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1137	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1138	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1139	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C1140	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1144	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1145	1-124-779-00	ELECT CHIP	10uF	20%	16V
C1146	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1147	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1148	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1149	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1150	1-124-779-00	ELECT CHIP	10uF	20%	16V
C1151	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1152	1-162-916-11	CERAMIC CHIP	12PF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C1153	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C1154	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1155	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1156	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1157	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1158	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1160	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1161	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1162	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1163	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1164	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1169	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1170	1-124-779-00	ELECT CHIP	10uF	20%	16V
C1171	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1172	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1173	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1174	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1175	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1176	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1177	1-126-947-11	ELECT	47uF	20%	35V
C1179	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1180	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1181	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1182	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1183	1-128-934-91	CERAMIC CHIP	0.33uF	20%	10V
C1184	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1186	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1187	1-126-947-11	ELECT	47uF	20%	35V
C1190	1-104-658-91	ELECT	100uF	20%	10V
C1191	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1192	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1193	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1195	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1197	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1198	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C1199	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1203	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1205	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C1206	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C1208	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1209	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C1210	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1211	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C1212	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1213	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1214	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1215	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1217	1-126-947-11	ELECT	47uF	20%	35V
C1218	1-126-964-11	ELECT	10uF	20%	50V
C1219	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1220	1-126-964-11	ELECT	10uF	20%	50V
C1221	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1222	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1223	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1224	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1225	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1226	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1233	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V

Ref. No.	Part No.	Description			Remark
C1602	1-128-994-21	ELECT CHIP	47uF	20%	10V
C1603	1-128-994-21	ELECT CHIP	47uF	20%	10V
C1701	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1702	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1703	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1704	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1706	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1707	1-126-965-91	ELECT	22uF	20%	50V
C1709	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1710	1-126-964-11	ELECT	10uF	20%	50V
C1711	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1712	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1713	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C1714	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1715	1-126-947-11	ELECT	47uF	20%	35V
C1716	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1717	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1718	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1719	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1720	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1723	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1725	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1727	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1729	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1730	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1736	1-126-947-11	ELECT	47uF	20%	35V
C2102	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (DZ230/DZ231)
C2103	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C2104	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C2105	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C2106	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C2107	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C2108	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C2110	1-104-658-91	ELECT	100uF	20%	10V
C2111	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C2114	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C2130	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3000	1-126-382-11	ELECT	100uF	20%	16V
C3001	1-126-947-11	ELECT	47uF	20%	35V
C3002	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C3008	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C3011	1-126-947-11	ELECT	47uF	20%	35V
C3012	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3013	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3014	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3015	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3016	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3017	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3018	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3019	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3020	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3021	1-126-947-11	ELECT	47uF	20%	35V
C3022	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3023	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3024	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3025	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3026	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remark
C3027	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3028	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3029	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3030	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3031	1-126-947-11	ELECT	47uF	20%	35V
C3032	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3033	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3034	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3035	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3036	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3037	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3038	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3039	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3040	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3051	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C3052	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3053	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3054	1-126-933-11	ELECT	100uF	20%	16V
C3055	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3056	1-126-923-91	ELECT	220uF	20%	10V
C3057	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3058	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C3059	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3060	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C3067	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3068	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3069	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3070	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3071	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3072	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3073	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3081	1-126-925-91	ELECT	470uF	20%	10V
C3082	1-126-925-91	ELECT	470uF	20%	10V
C3083	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3084	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3085	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3086	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3087	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3088	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3090	1-104-658-91	ELECT	100uF	20%	10V
C3091	1-126-934-11	ELECT	220uF	20%	16V
C3092	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3093	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3094	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C3095	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3100	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3103	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3104	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C3105	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3106	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3107	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3108	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3109	1-112-246-11	ELECT	100uF	20%	35V
C3112	1-112-246-11	ELECT	100uF	20%	35V
C3113	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3114	1-136-177-00	FILM	1uF	5%	50V
C3115	1-136-177-00	FILM	1uF	5%	50V

Ref. No.	Part No.	Description			Remark
C3116	1-112-831-11	ELECT	2200uF	20%	35V
C3122	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3123	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3124	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3125	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3126	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3127	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3128	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3129	1-117-370-11	CERAMIC CHIP	10uF		10V
C3150	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3153	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3154	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C3155	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3156	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3157	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3158	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3159	1-112-246-11	ELECT	100uF	20%	35V
C3162	1-112-246-11	ELECT	100uF	20%	35V
C3163	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3164	1-136-177-00	FILM	1uF	5%	50V
C3165	1-136-177-00	FILM	1uF	5%	50V
C3166	1-112-831-11	ELECT	2200uF	20%	35V
C3172	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3173	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3200	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3203	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3204	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C3205	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3206	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3207	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3208	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3209	1-112-246-11	ELECT	100uF	20%	35V
C3212	1-112-246-11	ELECT	100uF	20%	35V
C3213	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3214	1-136-177-00	FILM	1uF	5%	50V
C3215	1-136-177-00	FILM	1uF	5%	50V
C3216	1-112-831-11	ELECT	2200uF	20%	35V
C3250	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3253	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3254	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C3255	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3256	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3257	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3258	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3259	1-112-246-11	ELECT	100uF	20%	35V
C3262	1-112-246-11	ELECT	100uF	20%	35V
C3263	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3264	1-136-177-00	FILM	1uF	5%	50V
C3265	1-136-177-00	FILM	1uF	5%	50V
C3266	1-112-831-11	ELECT	2200uF	20%	35V
C3300	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3303	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3304	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C3305	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3306	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3307	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3308	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3309	1-112-246-11	ELECT	100uF	20%	35V

MAIN

Ref. No.	Part No.	Description			Remark
C3312	1-112-246-11	ELECT	100uF	20%	35V
C3313	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3314	1-136-177-00	FILM	1uF	5%	50V
C3315	1-136-177-00	FILM	1uF	5%	50V
C3316	1-112-831-11	ELECT	2200uF	20%	35V
C3322	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3323	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3400	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3403	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3404	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C3405	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C3406	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3407	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C3408	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3409	1-112-246-11	ELECT	100uF	20%	35V
C3412	1-112-246-11	ELECT	100uF	20%	35V
C3413	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C3414	1-136-177-00	FILM	1uF	5%	50V
C3415	1-136-177-00	FILM	1uF	5%	50V
C3416	1-112-831-11	ELECT	2200uF	20%	35V
C3422	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3423	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3551	1-126-960-11	ELECT	1uF	20%	50V
C3552	1-126-964-11	ELECT	10uF	20%	50V
C3553	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3556	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3901	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3902	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3903	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3904	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3911	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C3912	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C3913	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C3914	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C4501	1-117-370-11	CERAMIC CHIP	10uF		10V
C4502	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4504	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C9772	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN502	1-778-692-51	CONNECTOR, FFC/FPC 21P			
CN503	1-784-368-51	CONNECTOR, FFC/FPC 9P			
CN512	1-506-469-11	PIN, CONNECTOR 4P			
CN605	1-778-692-51	CONNECTOR, FFC/FPC 21P (DZ230/DZ231)			
CN608	1-784-374-51	CONNECTOR, FFC/FPC 15P (HDZ235)			
CN702	1-779-273-11	CONNECTOR, FFC (LIF (NON-ZIF)) 5P			
CN1101	1-815-763-32	CONNECTOR, FFC/FPC 24P			
CN1103	1-784-365-51	CONNECTOR, FFC/FPC 5P			
* CN1105	1-770-470-21	PIN, CONNECTOR (PC BOARD) 6P			
* CN1201	1-770-470-21	PIN, CONNECTOR (PC BOARD) 6P			
CN1202	1-784-365-51	CONNECTOR, FFC/FPC 5P			
CN1701	1-820-735-11	HDMI CONNECTOR			
CN3000	1-564-704-41	PIN, CONNECTOR (SMALL TYPE) 2P			
CN3001	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CN3002	1-785-102-11	PIN, CONNECTOR (3.96mm PITCH) 4P			
CN4301	1-784-372-51	CONNECTOR, FFC/FPC 13P (DZ230/DZ231)			
CN4302	1-784-370-51	CONNECTOR, FFC/FPC 11P (HDZ235)			

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D501	6-501-193-01	DIODE 1SS355WTE-17	
D502	6-501-193-01	DIODE 1SS355WTE-17	
D504	6-501-193-01	DIODE 1SS355WTE-17	
D505	6-500-334-01	DIODE MC2836-T112-1	
D701	6-501-579-01	DIODE MC2837	
D3071	6-501-193-01	DIODE 1SS355WTE-17	
D3072	6-501-193-01	DIODE 1SS355WTE-17	
D3073	6-501-193-01	DIODE 1SS355WTE-17	
D3551	6-501-579-01	DIODE MC2837	
D4111	6-501-696-01	DIODE RSA39LATE25	
D4112	6-501-696-01	DIODE RSA39LATE25	
D4151	6-501-696-01	DIODE RSA39LATE25	
D4152	6-501-696-01	DIODE RSA39LATE25	
D4201	6-501-696-01	DIODE RSA39LATE25	
D4202	6-501-696-01	DIODE RSA39LATE25	
D4251	6-501-696-01	DIODE RSA39LATE25	
D4252	6-501-696-01	DIODE RSA39LATE25	
D4301	6-501-696-01	DIODE RSA39LATE25	
D4302	6-501-696-01	DIODE RSA39LATE25	
D4401	6-501-696-01	DIODE RSA39LATE25	
D4402	6-501-696-01	DIODE RSA39LATE25	
D9712	6-501-193-01	DIODE 1SS355WTE-17	
		< FERRITE BEAD >	
FB504	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB505	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB506	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB507	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB508	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB509	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB510	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1106	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1107	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1108	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1111	1-469-670-21	FERRITE, EMI (SMD) (2012)	
FB1112	1-469-670-21	FERRITE, EMI (SMD) (2012)	
FB1115	1-469-670-21	FERRITE, EMI (SMD) (2012)	
FB1123	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1601	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1602	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1603	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1701	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1702	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB1703	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB2101	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB2103	1-469-324-21	FERRITE, EMI (SMD) (2012)	
FB2120	1-469-118-21	FERRITE, EMI (SMD) (1608)	
FB2121	1-469-118-21	FERRITE, EMI (SMD) (1608)	
FB2122	1-469-118-21	FERRITE, EMI (SMD) (1608)	
FB2123	1-469-118-21	FERRITE, EMI (SMD) (1608)	
FB2124	1-469-118-21	FERRITE, EMI (SMD) (1608)	
FB2125	1-469-118-21	FERRITE, EMI (SMD) (1608)	
FB3051	1-216-295-91	SHORT CHIP 0	
		< FILTER >	
FL1111	1-234-494-21	FILTER, EMI REMOVAL (SMD)	

Ref. No.	Part No.	Description	Remark
FL4501	1-234-177-21	FILTER, CHIP EMI	
		< IC >	
IC501	6-807-087-01	IC M30622MEP-B02FPU0 (DZ230/DZ231)	
IC501	6-807-088-01	IC M30622MEP-B03FPU0 (HDZ235)	
IC502	6-702-302-01	IC TK11133CSCL-G	
IC503	6-708-922-01	IC PST3635NR	
IC504	6-709-034-01	IC NJM2887DL3 (TE2)	
IC772	6-710-554-01	IC PCM1808PWR	
IC1101	6-710-093-01	IC CXD9889R	
IC1102	6-807-162-01	IC S29AL032D70TF-OHI1-0701UC (HDZ235)	
IC1102	6-807-163-01	IC S29AL032D70TF-OHI1-0701CE (DZ230/DZ231)	
IC1103	not supplied	IC BR24L64F-WE2	
IC1104	6-709-370-01	IC A2V64S40CTP-G75	
IC1105	6-702-302-01	IC TK11133CSCL-G	
IC1107	6-702-302-01	IC TK11133CSCL-G	
IC1110	6-707-739-01	IC MM1661JTRE	
IC1111	6-704-100-01	IC TC7PAU04FU (TE85R)	
IC1201	6-704-524-01	IC FAN8036L	
IC1701	6-708-682-01	IC CXD9873Q	
IC1702	6-702-300-01	IC TK11118CSCL-G	
IC1703	6-702-302-01	IC TK11133CSCL-G	
IC1705	8-759-592-47	IC TC7SZ08FU (TE85R)	
IC1707	6-705-337-01	IC TK11150CSCL-G	
IC3001	8-759-710-97	IC NJM4565M-D	
IC3003	8-759-680-48	IC TC7WH157FK (TE85R)	
IC3010	6-707-939-01	IC CXD9843AR	
IC3020	6-707-939-01	IC CXD9843AR	
IC3030	6-707-939-01	IC CXD9843AR	
IC3050	6-702-300-01	IC TK11118CSCL-G	
IC3051	6-706-492-01	IC TC7SHU04FU (T5RSOJF)	
IC3100	6-708-921-01	IC CXD9883M	
IC3150	6-708-921-01	IC CXD9883M	
IC3200	6-708-921-01	IC CXD9883M	
IC3250	6-708-921-01	IC CXD9883M	
IC3300	6-708-921-01	IC CXD9883M	
IC3400	6-708-921-01	IC CXD9883M	
IC4501	8-759-573-97	IC SN74LVC541APWR	
		< COIL >	
L701	1-414-754-11	INDUCTOR 10uH	
L3000	1-469-527-91	INDUCTOR 47uH	
L3051	1-414-754-11	INDUCTOR 10uH	
L3052	1-414-754-11	INDUCTOR 10uH	
L3053	1-414-754-11	INDUCTOR 10uH	
L3054	1-412-939-11	INDUCTOR 1uH	
L3111	1-456-680-11	INDUCTOR 10uH	
L3112	1-456-680-11	INDUCTOR 10uH	
L3151	1-456-680-11	INDUCTOR 10uH	
L3152	1-456-680-11	INDUCTOR 10uH	
L3201	1-456-680-11	INDUCTOR 10uH	
L3202	1-456-680-11	INDUCTOR 10uH	
L3251	1-456-680-11	INDUCTOR 10uH	
L3252	1-456-680-11	INDUCTOR 10uH	
L3301	1-456-680-11	INDUCTOR 10uH	
L3302	1-456-680-11	INDUCTOR 10uH	
L3401	1-456-680-11	INDUCTOR 10uH	
L3402	1-456-680-11	INDUCTOR 10uH	
L3901	1-457-077-11	AIR-CORE COIL	
L3902	1-457-078-11	AIR-CORE COIL	
L3903	1-457-077-11	AIR-CORE COIL	
L3904	1-457-078-11	AIR-CORE COIL	
		< TRANSISTOR >	
Q503	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q504	6-550-718-01	TRANSISTOR RSR025N03TL	
Q631	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q632	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1101	6-550-008-01	TRANSISTOR UM6K1N-TN	
Q1102	6-550-653-01	TRANSISTOR QST8TR	
Q1103	8-729-027-52	TRANSISTOR DTC124EKA-T146	
Q1701	6-550-008-01	TRANSISTOR UM6K1N-TN	
Q3000	8-729-142-48	TRANSISTOR 2SD1616-TP-LK	
Q3001	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3002	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3081	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q3101	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3102	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3151	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3152	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3201	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3202	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3251	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3252	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3301	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3302	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3401	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3402	8-729-600-22	TRANSISTOR 2SA1235-F	
Q3551	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3552	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3553	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q9724	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q9726	8-729-905-35	TRANSISTOR 2SC4081-R	
Q9728	8-729-905-35	TRANSISTOR 2SC4081-R	
Q9729	8-729-027-43	TRANSISTOR DTC114EKA-T146	
		< RESISTOR >	
R146	1-216-805-11	METAL CHIP 47 5% 1/10W	
R501	1-216-857-11	METAL CHIP 1M 5% 1/10W	
R504	1-216-823-11	METAL CHIP 1.5K 5% 1/10W (UK)	
R504	1-216-841-11	METAL CHIP 47K 5% 1/10W (HDZ235)	
R505	1-216-829-11	METAL CHIP 4.7K 5% 1/10W (AEP)	
R505	1-216-837-11	METAL CHIP 22K 5% 1/10W (HDZ235)	
R505	1-216-841-11	METAL CHIP 47K 5% 1/10W (UK)	
R506	1-218-867-11	METAL CHIP 6.8K 0.5% 1/10W (DZ230/DZ231)	
R506	1-216-835-11	METAL CHIP 15K 5% 1/10W (HDZ235)	
R507	1-216-841-11	METAL CHIP 47K 5% 1/10W	
R508	1-216-821-11	METAL CHIP 1K 5% 1/10W	

MAIN

Ref. No.	Part No.	Description			Remark
R509	1-216-809-11	METAL CHIP	100	5%	1/10W
R510	1-216-833-11	METAL CHIP	10K	5%	1/10W
R511	1-216-821-11	METAL CHIP	1K	5%	1/10W
R512	1-216-833-11	METAL CHIP	10K	5%	1/10W
R513	1-216-821-11	METAL CHIP	1K	5%	1/10W
R514	1-216-833-11	METAL CHIP	10K	5%	1/10W
R515	1-216-821-11	METAL CHIP	1K	5%	1/10W
R516	1-216-821-11	METAL CHIP	1K	5%	1/10W
R517	1-216-809-11	METAL CHIP	100	5%	1/10W
R518	1-216-809-11	METAL CHIP	100	5%	1/10W
R519	1-216-833-11	METAL CHIP	10K	5%	1/10W
R526	1-216-821-11	METAL CHIP	1K	5%	1/10W
R527	1-216-833-11	METAL CHIP	10K	5%	1/10W
R528	1-216-833-11	METAL CHIP	10K	5%	1/10W
R529	1-216-821-11	METAL CHIP	1K	5%	1/10W
R530	1-216-809-11	METAL CHIP	100	5%	1/10W
R531	1-216-833-11	METAL CHIP	10K	5%	1/10W
R532	1-216-821-11	METAL CHIP	1K	5%	1/10W
R533	1-216-809-11	METAL CHIP	100	5%	1/10W
R534	1-216-833-11	METAL CHIP	10K	5%	1/10W
R535	1-216-809-11	METAL CHIP	100	5%	1/10W
R536	1-216-864-11	SHORT CHIP	0		
R539	1-216-833-11	METAL CHIP	10K	5%	1/10W
R540	1-216-833-11	METAL CHIP	10K	5%	1/10W
R542	1-216-833-11	METAL CHIP	10K	5%	1/10W
R546	1-216-833-11	METAL CHIP	10K	5%	1/10W
R547	1-216-864-11	SHORT CHIP	0		
R548	1-216-864-11	SHORT CHIP	0		
R550	1-216-821-11	METAL CHIP	1K	5%	1/10W
R552	1-216-821-11	METAL CHIP	1K	5%	1/10W
R553	1-216-833-11	METAL CHIP	10K	5%	1/10W (DZ230/DZ231)
R554	1-216-833-11	METAL CHIP	10K	5%	1/10W
R555	1-216-833-11	METAL CHIP	10K	5%	1/10W
R556	1-216-841-11	METAL CHIP	47K	5%	1/10W
R557	1-216-841-11	METAL CHIP	47K	5%	1/10W
R558	1-216-833-11	METAL CHIP	10K	5%	1/10W
R559	1-216-833-11	METAL CHIP	10K	5%	1/10W
R561	1-216-845-11	METAL CHIP	100K	5%	1/10W
R562	1-216-841-11	METAL CHIP	47K	5%	1/10W
R563	1-216-833-11	METAL CHIP	10K	5%	1/10W
R564	1-216-864-11	SHORT CHIP	0		
R565	1-216-864-11	SHORT CHIP	0		
R566	1-216-864-11	SHORT CHIP	0		
R567	1-216-864-11	SHORT CHIP	0		
R568	1-216-864-11	SHORT CHIP	0		
R569	1-216-864-11	SHORT CHIP	0		
R572	1-218-751-11	METAL CHIP	300K	0.5%	1/10W
R573	1-216-845-11	METAL CHIP	100K	5%	1/10W
R575	1-216-821-11	METAL CHIP	1K	5%	1/10W
R576	1-216-821-11	METAL CHIP	1K	5%	1/10W
R577	1-216-841-11	METAL CHIP	47K	5%	1/10W
R578	1-216-809-11	METAL CHIP	100	5%	1/10W
R579	1-216-821-11	METAL CHIP	1K	5%	1/10W
R580	1-216-809-11	METAL CHIP	100	5%	1/10W
R581	1-216-809-11	METAL CHIP	100	5%	1/10W
R582	1-216-864-11	SHORT CHIP	0		
R583	1-216-841-11	METAL CHIP	47K	5%	1/10W
R586	1-216-833-11	METAL CHIP	10K	5%	1/10W
R587	1-216-833-11	METAL CHIP	10K	5%	1/10W
R589	1-216-295-91	SHORT CHIP	0		
R590	1-216-295-91	SHORT CHIP	0		
R596	1-216-295-91	SHORT CHIP	0		
R597	1-216-295-91	SHORT CHIP	0		
R598	1-216-296-11	SHORT CHIP	0		
R599	1-216-295-91	SHORT CHIP	0		
R601	1-216-864-11	SHORT CHIP	0		
R602	1-216-809-11	METAL CHIP	100	5%	1/10W (DZ230/DZ231)
R603	1-216-809-11	METAL CHIP	100	5%	1/10W (DZ230/DZ231)
R604	1-216-809-11	METAL CHIP	100	5%	1/10W
R605	1-216-809-11	METAL CHIP	100	5%	1/10W
R606	1-216-809-11	METAL CHIP	100	5%	1/10W
R607	1-216-809-11	METAL CHIP	100	5%	1/10W
R608	1-216-809-11	METAL CHIP	100	5%	1/10W
R609	1-216-809-11	METAL CHIP	100	5%	1/10W
R610	1-216-809-11	METAL CHIP	100	5%	1/10W
R611	1-216-809-11	METAL CHIP	100	5%	1/10W
R612	1-216-809-11	METAL CHIP	100	5%	1/10W
R613	1-216-809-11	METAL CHIP	100	5%	1/10W
R614	1-216-809-11	METAL CHIP	100	5%	1/10W
R615	1-216-809-11	METAL CHIP	100	5%	1/10W
R631	1-216-833-11	METAL CHIP	10K	5%	1/10W
R632	1-216-841-11	METAL CHIP	47K	5%	1/10W
R636	1-216-864-11	SHORT CHIP	0		
R637	1-216-809-11	METAL CHIP	100	5%	1/10W
R638	1-216-809-11	METAL CHIP	100	5%	1/10W
R639	1-216-809-11	METAL CHIP	100	5%	1/10W (DZ230/DZ231)
R640	1-216-809-11	METAL CHIP	100	5%	1/10W
R691	1-216-864-11	SHORT CHIP	0		
R692	1-216-864-11	SHORT CHIP	0		
R693	1-216-864-11	SHORT CHIP	0		
R694	1-216-864-11	SHORT CHIP	0		
R695	1-216-864-11	SHORT CHIP	0		
R696	1-216-864-11	SHORT CHIP	0		
R701	1-216-813-11	METAL CHIP	220	5%	1/10W
R702	1-216-864-11	SHORT CHIP	0		
R721	1-216-864-11	SHORT CHIP	0		
R778	1-216-864-11	SHORT CHIP	0		
R780	1-216-805-11	METAL CHIP	47	5%	1/10W
R781	1-216-805-11	METAL CHIP	47	5%	1/10W
R782	1-216-801-11	METAL CHIP	22	5%	1/10W
R783	1-216-801-11	METAL CHIP	22	5%	1/10W
R784	1-216-801-11	METAL CHIP	22	5%	1/10W
R785	1-216-801-11	METAL CHIP	22	5%	1/10W
R786	1-216-295-91	SHORT CHIP	0		
R790	1-216-864-11	SHORT CHIP	0		
R1101	1-216-809-11	METAL CHIP	100	5%	1/10W
R1102	1-216-295-91	SHORT CHIP	0		
R1103	1-216-864-11	SHORT CHIP	0		
R1105	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1106	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1107	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1108	1-216-857-11	METAL CHIP	1M	5%	1/10W

Ref. No.	Part No.	Description			Remark
R1109	1-216-864-11	SHORT CHIP	0		
R1110	1-216-841-11	METAL CHIP	47K	5%	1/10W
R1111	1-216-809-11	METAL CHIP	100	5%	1/10W
R1112	1-211-977-11	METAL CHIP	22	0.5%	1/10W
R1113	1-211-977-11	METAL CHIP	22	0.5%	1/10W
R1114	1-216-845-11	METAL CHIP	100K	5%	1/10W
R1115	1-211-977-11	METAL CHIP	22	0.5%	1/10W
R1116	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1117	1-216-841-11	METAL CHIP	47K	5%	1/10W
R1118	1-216-801-11	METAL CHIP	22	5%	1/10W
R1120	1-216-801-11	METAL CHIP	22	5%	1/10W
R1121	1-216-801-11	METAL CHIP	22	5%	1/10W
R1123	1-216-864-11	SHORT CHIP	0		
R1124	1-216-841-11	METAL CHIP	47K	5%	1/10W
R1125	1-216-805-11	METAL CHIP	47	5%	1/10W
R1132	1-216-845-11	METAL CHIP	100K	5%	1/10W
R1133	1-216-864-11	SHORT CHIP	0		
R1134	1-216-864-11	SHORT CHIP	0 (DZ230/DZ231)		
R1135	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1136	1-216-835-11	METAL CHIP	15K	5%	1/10W
R1138	1-216-809-11	METAL CHIP	100	5%	1/10W
R1139	1-216-864-11	SHORT CHIP	0		
R1140	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1141	1-216-855-11	METAL CHIP	680K	5%	1/10W
R1142	1-216-845-11	METAL CHIP	100K	5%	1/10W
R1145	1-216-864-11	SHORT CHIP	0		
R1147	1-216-864-11	SHORT CHIP	0		
R1148	1-216-864-11	SHORT CHIP	0		
R1151	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1152	1-216-864-11	SHORT CHIP	0		
R1153	1-216-864-11	SHORT CHIP	0		
R1154	1-216-864-11	SHORT CHIP	0		
R1155	1-216-864-11	SHORT CHIP	0		
R1156	1-216-809-11	METAL CHIP	100	5%	1/10W
R1159	1-216-805-11	METAL CHIP	47	5%	1/10W
R1160	1-216-805-11	METAL CHIP	47	5%	1/10W
R1161	1-216-801-11	METAL CHIP	22	5%	1/10W
R1169	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1170	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1171	1-216-809-11	METAL CHIP	100	5%	1/10W
R1175	1-216-864-11	SHORT CHIP	0		
R1183	1-216-805-11	METAL CHIP	47	5%	1/10W
R1184	1-216-805-11	METAL CHIP	47	5%	1/10W
R1185	1-216-805-11	METAL CHIP	47	5%	1/10W
R1191	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1193	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1204	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R1205	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1206	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1207	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R1208	1-216-839-11	METAL CHIP	33K	5%	1/10W
R1209	1-216-839-11	METAL CHIP	33K	5%	1/10W
R1210	1-216-841-11	METAL CHIP	47K	5%	1/10W
R1212	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1213	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R1214	1-216-835-11	METAL CHIP	15K	5%	1/10W
R1215	1-216-834-11	METAL CHIP	12K	5%	1/10W
R1216	1-216-834-11	METAL CHIP	12K	5%	1/10W
R1219	1-216-838-11	METAL CHIP	27K	5%	1/10W
R1220	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1221	1-218-889-11	METAL CHIP	56K	0.5%	1/10W
R1222	1-216-839-11	METAL CHIP	33K	5%	1/10W
R1223	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R1224	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1225	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R1226	1-218-889-11	METAL CHIP	56K	0.5%	1/10W
R1227	1-216-864-11	SHORT CHIP	0		
R1228	1-216-864-11	SHORT CHIP	0		
R1230	1-218-893-11	METAL CHIP	82K	0.5%	1/10W
R1231	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R1232	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R1233	1-218-883-11	METAL CHIP	33K	0.5%	1/10W
R1234	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1236	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1237	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1238	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1239	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1243	1-216-809-11	METAL CHIP	100	5%	1/10W
R1246	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1247	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1601	1-216-295-91	SHORT CHIP	0		
R1602	1-216-295-91	SHORT CHIP	0		
R1603	1-216-295-91	SHORT CHIP	0		
R1604	1-216-295-91	SHORT CHIP	0		
R1605	1-216-296-11	SHORT CHIP	0		
R1606	1-216-295-91	SHORT CHIP	0		
R1701	1-216-809-11	METAL CHIP	100	5%	1/10W
R1702	1-216-864-11	SHORT CHIP	0		
R1703	1-216-864-11	SHORT CHIP	0		
R1704	1-216-809-11	METAL CHIP	100	5%	1/10W
R1705	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1706	1-216-864-11	SHORT CHIP	0		
R1707	1-216-864-11	SHORT CHIP	0		
R1712	1-216-809-11	METAL CHIP	100	5%	1/10W
R1713	1-218-841-11	METAL CHIP	560	0.5%	1/10W
R1714	1-216-864-11	SHORT CHIP	0		
R1721	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1722	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1723	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1726	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1727	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1728	1-216-864-11	SHORT CHIP	0		
R1730	1-218-840-11	METAL CHIP	510	0.5%	1/10W
R1731	1-216-864-11	SHORT CHIP	0		
R1734	1-216-864-11	SHORT CHIP	0		
R1736	1-216-864-11	SHORT CHIP	0		
R1738	1-216-864-11	SHORT CHIP	0		
R1740	1-216-864-11	SHORT CHIP	0		
R1742	1-216-841-11	METAL CHIP	47K	5%	1/10W
R1744	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1746	1-216-864-11	SHORT CHIP	0		
R1747	1-216-864-11	SHORT CHIP	0		
R1748	1-216-864-11	SHORT CHIP	0		
R1749	1-216-824-11	METAL CHIP	1.8K	5%	1/10W
R1750	1-216-824-11	METAL CHIP	1.8K	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
R1751	1-216-864-11	SHORT CHIP	0		
R1752	1-216-864-11	SHORT CHIP	0		
R1753	1-216-864-11	SHORT CHIP	0		
R1756	1-216-864-11	SHORT CHIP	0		
R1757	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1758	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1759	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1783	1-216-864-11	SHORT CHIP	0		
R1784	1-216-864-11	SHORT CHIP	0		
R1785	1-216-864-11	SHORT CHIP	0		
R1786	1-216-864-11	SHORT CHIP	0		
R1788	1-216-864-11	SHORT CHIP	0		
R1791	1-216-864-11	SHORT CHIP	0		
R1793	1-216-864-11	SHORT CHIP	0		
R2101	1-218-855-11	METAL CHIP	2.2K	0.5%	1/10W
R2104	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2107	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2110	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R2113	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2114	1-216-801-11	METAL CHIP	22	5%	1/10W
R2115	1-216-864-11	SHORT CHIP	0		
R2118	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2119	1-216-864-11	SHORT CHIP	0		
R2126	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R2127	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R2128	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2129	1-216-845-11	METAL CHIP	100K	5%	1/10W
R2133	1-216-864-11	SHORT CHIP	0		
R2134	1-216-864-11	SHORT CHIP	0		
R2135	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2150	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R2151	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R2152	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R2161	1-216-809-11	METAL CHIP	100	5%	1/10W
R2167	1-216-864-11	SHORT CHIP	0		
R2168	1-216-813-11	METAL CHIP	220	5%	1/10W
R2169	1-216-809-11	METAL CHIP	100	5%	1/10W
R2176	1-216-864-11	SHORT CHIP	0		
R2177	1-216-809-11	METAL CHIP	100	5%	1/10W
R2178	1-216-821-11	METAL CHIP	1K	5%	1/10W
R2179	1-216-809-11	METAL CHIP	100	5%	1/10W
R2183	1-216-809-11	METAL CHIP	100	5%	1/10W
R2184	1-216-809-11	METAL CHIP	100	5%	1/10W
R2185	1-216-809-11	METAL CHIP	100	5%	1/10W
R2186	1-216-864-11	SHORT CHIP	0		
R2187	1-216-805-11	METAL CHIP	47	5%	1/10W
R2191	1-216-809-11	METAL CHIP	100	5%	1/10W
R2505	1-216-864-11	SHORT CHIP	0		
R2705	1-216-821-11	METAL CHIP	1K	5%	1/10W
R2706	1-216-821-11	METAL CHIP	1K	5%	1/10W
R2711	1-208-635-11	METAL CHIP	10	0.5%	1/16W
R2712	1-208-635-11	METAL CHIP	10	0.5%	1/16W
R2713	1-208-635-11	METAL CHIP	10	0.5%	1/16W
R2714	1-208-635-11	METAL CHIP	10	0.5%	1/16W
R2715	1-208-635-11	METAL CHIP	10	0.5%	1/16W
R2716	1-208-635-11	METAL CHIP	10	0.5%	1/16W
R2717	1-208-635-11	METAL CHIP	10	0.5%	1/16W
R2718	1-208-635-11	METAL CHIP	10	0.5%	1/16W
R2751	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3001	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3002	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3003	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R3004	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R3006	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3011	1-216-817-11	METAL CHIP	470	5%	1/10W
R3012	1-216-817-11	METAL CHIP	470	5%	1/10W
R3013	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3014	1-216-801-11	METAL CHIP	22	5%	1/10W
R3015	1-216-809-11	METAL CHIP	100	5%	1/10W
R3017	1-216-819-11	METAL CHIP	680	5%	1/10W
R3021	1-216-817-11	METAL CHIP	470	5%	1/10W
R3022	1-216-817-11	METAL CHIP	470	5%	1/10W
R3023	1-216-801-11	METAL CHIP	22	5%	1/10W
R3024	1-216-809-11	METAL CHIP	100	5%	1/10W
R3026	1-216-819-11	METAL CHIP	680	5%	1/10W
R3031	1-216-817-11	METAL CHIP	470	5%	1/10W
R3032	1-216-817-11	METAL CHIP	470	5%	1/10W
R3033	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3034	1-216-801-11	METAL CHIP	22	5%	1/10W
R3035	1-216-809-11	METAL CHIP	100	5%	1/10W
R3037	1-216-819-11	METAL CHIP	680	5%	1/10W
R3040	1-216-864-11	SHORT CHIP	0		
R3041	1-216-864-11	SHORT CHIP	0		
R3042	1-216-864-11	SHORT CHIP	0		
R3043	1-216-864-11	SHORT CHIP	0		
R3044	1-216-864-11	SHORT CHIP	0		
R3045	1-216-864-11	SHORT CHIP	0		
R3046	1-216-864-11	SHORT CHIP	0		
R3050	1-216-864-11	SHORT CHIP	0		
R3051	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3052	1-216-857-11	METAL CHIP	1M	5%	1/10W
R3053	1-216-809-11	METAL CHIP	100	5%	1/10W
R3054	1-216-801-11	METAL CHIP	22	5%	1/10W
R3055	1-216-809-11	METAL CHIP	100	5%	1/10W
R3057	1-216-809-11	METAL CHIP	100	5%	1/10W
R3059	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3060	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3061	1-216-864-11	SHORT CHIP	0		
R3062	1-216-809-11	METAL CHIP	100	5%	1/10W
R3063	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3064	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3065	1-216-809-11	METAL CHIP	100	5%	1/10W
R3066	1-216-809-11	METAL CHIP	100	5%	1/10W
R3067	1-216-809-11	METAL CHIP	100	5%	1/10W
R3068	1-216-809-11	METAL CHIP	100	5%	1/10W
R3069	1-216-809-11	METAL CHIP	100	5%	1/10W
R3070	1-216-809-11	METAL CHIP	100	5%	1/10W
R3071	1-216-809-11	METAL CHIP	100	5%	1/10W
R3072	1-216-809-11	METAL CHIP	100	5%	1/10W
R3073	1-216-809-11	METAL CHIP	100	5%	1/10W
R3074	1-216-809-11	METAL CHIP	100	5%	1/10W
R3075	1-216-809-11	METAL CHIP	100	5%	1/10W
R3076	1-216-809-11	METAL CHIP	100	5%	1/10W
R3077	1-216-809-11	METAL CHIP	100	5%	1/10W
R3078	1-216-809-11	METAL CHIP	100	5%	1/10W

Ref. No.	Part No.	Description			Remark
R3079	1-216-809-11	METAL CHIP	100	5%	1/10W
R3080	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3085	1-216-839-11	METAL CHIP	33K	5%	1/10W
R3086	1-216-839-11	METAL CHIP	33K	5%	1/10W
R3087	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3088	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3089	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3090	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3091	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3092	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3093	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3094	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3095	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R3096	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R3097	1-216-809-11	METAL CHIP	100	5%	1/10W
R3098	1-216-839-11	METAL CHIP	33K	5%	1/10W
R3099	1-216-839-11	METAL CHIP	33K	5%	1/10W
R3101	1-216-809-11	METAL CHIP	100	5%	1/10W
R3102	1-216-809-11	METAL CHIP	100	5%	1/10W
R3103	1-216-864-11	SHORT CHIP	0		
R3104	1-216-864-11	SHORT CHIP	0		
R3107	1-216-835-11	METAL CHIP	15K	5%	1/10W
R3115	1-216-864-11	SHORT CHIP	0		
R3116	1-216-864-11	SHORT CHIP	0		
R3125	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3126	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3127	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3151	1-216-809-11	METAL CHIP	100	5%	1/10W
R3152	1-216-809-11	METAL CHIP	100	5%	1/10W
R3153	1-216-864-11	SHORT CHIP	0		
R3154	1-216-864-11	SHORT CHIP	0		
R3157	1-216-835-11	METAL CHIP	15K	5%	1/10W
R3165	1-216-864-11	SHORT CHIP	0		
R3166	1-216-864-11	SHORT CHIP	0		
R3175	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3176	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3177	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3201	1-216-809-11	METAL CHIP	100	5%	1/10W
R3202	1-216-809-11	METAL CHIP	100	5%	1/10W
R3203	1-216-864-11	SHORT CHIP	0		
R3204	1-216-864-11	SHORT CHIP	0		
R3207	1-216-835-11	METAL CHIP	15K	5%	1/10W
R3215	1-216-864-11	SHORT CHIP	0		
R3216	1-216-864-11	SHORT CHIP	0		
R3225	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3226	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3227	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3251	1-216-809-11	METAL CHIP	100	5%	1/10W
R3252	1-216-809-11	METAL CHIP	100	5%	1/10W
R3253	1-216-864-11	SHORT CHIP	0		
R3254	1-216-864-11	SHORT CHIP	0		
R3257	1-216-835-11	METAL CHIP	15K	5%	1/10W
R3265	1-216-864-11	SHORT CHIP	0		
R3266	1-216-864-11	SHORT CHIP	0		
R3275	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3276	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3277	1-216-845-11	METAL CHIP	100K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R3301	1-216-809-11	METAL CHIP	100	5%	1/10W
R3302	1-216-809-11	METAL CHIP	100	5%	1/10W
R3303	1-216-864-11	SHORT CHIP	0		
R3304	1-216-864-11	SHORT CHIP	0		
R3307	1-216-835-11	METAL CHIP	15K	5%	1/10W
R3315	1-216-864-11	SHORT CHIP	0		
R3316	1-216-864-11	SHORT CHIP	0		
R3325	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3326	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3327	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3403	1-216-864-11	SHORT CHIP	0		
R3404	1-216-864-11	SHORT CHIP	0		
R3407	1-216-835-11	METAL CHIP	15K	5%	1/10W
R3415	1-216-864-11	SHORT CHIP	0		
R3416	1-216-864-11	SHORT CHIP	0		
R3425	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3426	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3427	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3501	1-216-809-11	METAL CHIP	100	5%	1/10W
R3502	1-216-809-11	METAL CHIP	100	5%	1/10W
R3551	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3552	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3553	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3554	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3555	1-216-864-11	SHORT CHIP	0		
R3556	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R3557	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3558	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3901	1-216-296-11	SHORT CHIP	0		
R3902	1-216-296-11	SHORT CHIP	0		
R3905	1-216-296-11	SHORT CHIP	0		
R3906	1-216-296-11	SHORT CHIP	0		
R3907	1-216-864-11	SHORT CHIP	0		
R3911	1-216-864-11	SHORT CHIP	0		
R3912	1-216-864-11	SHORT CHIP	0		
R3913	1-216-864-11	SHORT CHIP	0		
R3914	1-216-864-11	SHORT CHIP	0		
R3917	1-216-864-11	SHORT CHIP	0		
R3918	1-216-864-11	SHORT CHIP	0		
R3919	1-216-864-11	SHORT CHIP	0		
R4002	1-216-864-11	SHORT CHIP	0		
R4308	1-216-864-11	SHORT CHIP	0 (DZ230/DZ231)		
R4501	1-216-801-11	METAL CHIP	22	5%	1/10W
R4502	1-216-801-11	METAL CHIP	22	5%	1/10W
R4510	1-216-805-11	METAL CHIP	47	5%	1/10W
R4511	1-216-801-11	METAL CHIP	22	5%	1/10W
R4512	1-216-864-11	SHORT CHIP	0		
R4514	1-216-805-11	METAL CHIP	47	5%	1/10W
R4515	1-216-805-11	METAL CHIP	47	5%	1/10W
R4516	1-216-805-11	METAL CHIP	47	5%	1/10W
R4517	1-216-864-11	SHORT CHIP	0		
R4519	1-216-864-11	SHORT CHIP	0		
R4521	1-216-864-11	SHORT CHIP	0		
R4701	1-216-864-11	SHORT CHIP	0		
R4702	1-216-864-11	SHORT CHIP	0		
R4703	1-216-864-11	SHORT CHIP	0		
R4704	1-216-864-11	SHORT CHIP	0		
R4705	1-216-864-11	SHORT CHIP	0		

MAIN **MS-203** **POWER**

Ref. No.	Part No.	Description			Remark
R4706	1-216-864-11	SHORT CHIP	0		
R4717	1-216-864-11	SHORT CHIP	0 (HDZ235)		
R4718	1-216-864-11	SHORT CHIP	0		
R4805	1-216-801-11	METAL CHIP	22	5%	1/10W
R9918	1-216-821-11	METAL CHIP	1K	5%	1/10W
R9920	1-216-864-11	SHORT CHIP	0		
R9922	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9924	1-216-821-11	METAL CHIP	1K	5%	1/10W
R9928	1-216-837-11	METAL CHIP	22K	5%	1/10W
R9929	1-216-837-11	METAL CHIP	22K	5%	1/10W
R9934	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9935	1-216-864-11	SHORT CHIP	0		
R9941	1-216-838-11	METAL CHIP	27K	5%	1/10W
R9945	1-216-813-11	METAL CHIP	220	5%	1/10W
		< NETWORK RESISTOR >			
RB1103	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1104	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1105	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1106	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1107	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1108	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1109	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
RB1110	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
RB1111	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1112	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
RB1113	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
RB1114	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1115	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1116	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1117	1-234-371-21	RES, NETWORK	47 (1005X4)		
RB1701	1-234-378-21	RES, NETWORK	10K (1005X4)		
RB1702	1-234-378-21	RES, NETWORK	10K (1005X4)		
RB1711	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
RB1712	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
		< TERMINAL >			
TB3901	1-780-453-11	TERMINAL BOARD (SPEAKER) 2P (SPEAKER CENTER/WOOFER)			
		< VIBRATOR >			
X501	1-795-058-21	VIBRATOR, CERAMIC (5MHz)			
X1101	1-795-630-11	VIBRATOR, CRYSTAL (27MHz)			
X3051	1-795-660-21	QUARTZ CRYSTAL UNIT (49.152MHz)			
**********					
		MS-203 BOARD			
		**********			
		< CONNECTOR >			
CN001	1-815-412-11	CONNECTOR, FFC/FPC 5P			
		< SWITCH >			
S001	1-786-693-11	SWITCH, DETECTION (CHUCK/TRAY DETECT)			
**********					

Ref. No.	Part No.	Description			Remark
	A-1218-005-A	POWER BOARD, COMPLETE (DZ230/DZ231)			
	A-1228-785-A	POWER BOARD, COMPLETE (HDZ235)			
		**********			
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3			
		< CAPACITOR >			
⚠C901	1-165-529-11	MYLAR	0.22uF	10	275V
⚠C902	1-165-529-11	MYLAR	0.22uF	10	275V
⚠C903	1-114-345-11	ELECT (BLOCK)	1000uF	20%	200V (HDZ235)
⚠C903	1-114-346-11	ELECT (BLOCK)	330uF	20%	400V (DZ230/DZ231)
⚠C905	1-112-334-91	FILM	0.01uF	5%	400V (HDZ235)
⚠C905	1-112-335-91	FILM	0.0033uF	5%	400V (DZ230/DZ231)
⚠C906	1-117-815-11	FILM	1000PF	3%	1.5KV (DZ230/DZ231)
⚠C907	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (DZ230/DZ231)
⚠C907	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V (HDZ235)
⚠C908	1-104-962-91	ELECT	47uF	20%	35V
⚠C909	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
⚠C910	1-107-906-11	ELECT	10uF	20%	50V (HDZ235)
⚠C910	1-107-907-11	ELECT	22uF	20%	50V (DZ230/DZ231)
⚠C911	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
⚠C913	1-117-693-11	CERAMIC	100PF	10%	250V
⚠C918	1-113-925-11	CERAMIC	0.01uF	20%	250V
⚠C920	1-113-925-11	CERAMIC	0.01uF	20%	250V
⚠C922	1-128-560-11	ELECT	22uF	20%	100V
⚠C923	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
⚠C924	1-126-961-11	ELECT	2.2uF	20%	50V
⚠C925	1-107-974-81	CERAMIC	47PF	5%	2KV
⚠C928	1-117-695-51	CERAMIC	220PF	10%	250V (HDZ235)
⚠C929	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
⚠C930	1-117-693-11	CERAMIC	100PF	10%	250V
C932	1-100-924-21	ELECT	2200uF	20%	35V
C933	1-100-924-21	ELECT	2200uF	20%	35V
C934	1-126-953-11	ELECT	2200uF	20%	35V
C935	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C936	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C937	1-100-756-91	CERAMIC CHIP	0.047uF		50V
⚠C938	1-117-696-51	CERAMIC	330PF	10%	250V (HDZ235)
⚠C938	1-117-697-51	CERAMIC	470PF	10%	250V (DZ230/DZ231)
C939	1-136-165-00	FILM	0.1uF	5%	50V
C940	1-128-947-31	ELECT	3300uF	20%	10V
C941	1-128-954-11	ELECT	1000uF	20%	25V
C942	1-126-941-11	ELECT	470uF	20%	25V
C943	1-126-933-11	ELECT	100uF	20%	16V
C944	1-128-951-21	ELECT	2200uF	20%	16V
C945	1-126-935-11	ELECT	470uF	20%	16V
C946	1-128-950-21	ELECT	1000uF	20%	16V
C947	1-104-658-91	ELECT	100uF	20%	10V

Ref. No.	Part No.	Description			Remark
C948	1-126-925-91	ELECT	470uF	20%	10V
C949	1-104-658-91	ELECT	100uF	20%	10V
C951	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C952	1-100-756-91	CERAMIC CHIP	0.047uF		50V
C953	1-117-214-11	CERAMIC	0.001uF	10%	2KV
C954	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C955	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C958	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C960	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
⚠C963	1-117-697-51	CERAMIC	470PF	10%	250V (DZ230/DZ231)
⚠C963	1-117-700-51	CERAMIC	0.0022uF	20%	250V (HDZ235)
⚠C964	1-117-697-51	CERAMIC	470PF	10%	250V (DZ230/DZ231)
⚠C964	1-117-700-51	CERAMIC	0.0022uF	20%	250V (HDZ235)
C967	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C968	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C969	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C970	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C971	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C976	1-126-933-11	ELECT	100uF	20%	16V
⚠C980	1-117-828-11	FILM	3300PF	3%	1.5KV (HDZ235)
C981	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V (DZ230/DZ231)
		< CONNECTOR >			
⚠CN901	1-564-321-00	PIN, CONNECTOR (3.96mm PITCH) 2P			
* CN906	1-564-714-11	PIN, CONNECTOR (SMALL TYPE) 12P			
CN907	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			(DZ230/DZ231)
		< DIODE >			
⚠D901	8-719-082-57	DIODE D5SBA60F01			
⚠D905	8-719-063-74	DIODE D1NL20U-TR2			
⚠D906	6-501-193-01	DIODE 1SS355WTE-17			
⚠D907	6-501-193-01	DIODE 1SS355WTE-17			
⚠D908	6-501-193-01	DIODE 1SS355WTE-17			
⚠D909	6-501-193-01	DIODE 1SS355WTE-17			
⚠D910	6-501-193-01	DIODE 1SS355WTE-17			
⚠D913	6-500-241-01	DIODE SARS03			
⚠D914	6-501-193-01	DIODE 1SS355WTE-17			
⚠D915	6-501-174-01	DIODE UDZW-TE17-10B			
⚠D921	6-501-424-01	DIODE STO2D-140			
⚠D922	8-719-063-74	DIODE D1NL20U-TR2			
⚠D923	6-501-174-01	DIODE UDZW-TE17-10B			
⚠D924	6-501-183-01	DIODE UDZW-TE17-24B			
⚠D925	6-501-167-01	DIODE UDZW-TE17-5.1B			
⚠D926	6-501-174-01	DIODE UDZW-TE17-10B			
D931	6-501-849-01	DIODE FMX-22SL			
D932	6-501-167-01	DIODE UDZW-TE17-5.1B			
D941	6-500-288-11	DIODE EK19LF-F7			
D942	8-719-080-53	DIODE RK36LF-B3			
D943	8-719-080-53	DIODE RK36LF-B3			
D944	6-500-288-11	DIODE EK19LF-F7			
D945	6-501-181-01	DIODE UDZW-TE17-20B			

Ref. No.	Part No.	Description			Remark
		< TERMINAL BOARD >			
EB901	1-537-770-21	TERMINAL BOARD, GROUND			
EB902	1-537-770-21	TERMINAL BOARD, GROUND			
EB903	1-537-770-21	TERMINAL BOARD, GROUND			
EB904	1-537-770-21	TERMINAL BOARD, GROUND			
EB906	1-537-770-21	TERMINAL BOARD, GROUND			
		< FUSE HOLDER >			
FH901	1-533-217-41	HOLDER, FUSE			
FH902	1-533-217-41	HOLDER, FUSE			
		< FUSIBLE RESISTOR >			
⚠FR901	1-242-949-11	FUSIBLE	0.1	10% 1W	(DZ230/DZ231)
		< IC >			
⚠IC901	6-707-741-01	IC STR-F6138-LF1352 (HDZ235)			
⚠IC901	6-707-742-01	IC STR-F6168-LF1352 (DZ230/DZ231)			
⚠IC921	6-707-740-01	IC STR-V153			
IC931	8-759-648-34	IC TA76431AS (TPE6)			
IC941	6-705-308-01	IC SI-3010KM-TL			
IC942	6-705-308-01	IC SI-3010KM-TL			
IC943	6-705-308-01	IC SI-3010KM-TL			
IC951	6-707-743-01	IC TA76L431S (TPE6, Q)			
		< COIL >			
L931	1-457-438-11	COIL, CHOKE	5.6uH		
L941	1-414-398-11	INDUCTOR	10uH		
L942	1-414-398-11	INDUCTOR	10uH		
L943	1-414-398-11	INDUCTOR	10uH		
L944	1-414-398-11	INDUCTOR	10uH		
L945	1-414-398-11	INDUCTOR	10uH		
L947	1-414-398-11	INDUCTOR	10uH		
L948	1-414-398-11	INDUCTOR	10uH		
L951	1-414-398-11	INDUCTOR	10uH		
		< LINE FILTER >			
⚠LF901	1-457-054-21	COIL, LINE FILTER			
⚠LF902	1-457-054-21	COIL, LINE FILTER			
		< PHOTO COUPLER >			
⚠PC901	6-600-438-01	IC TLP421F (D4-GR)			
⚠PC902	6-600-438-01	IC TLP421F (D4-GR)			
⚠PC903	6-600-438-01	IC TLP421F (D4-GR)			
		< TRANSISTOR >			
⚠Q901	8-729-141-88	TRANSISTOR	2SB1116A-TP-LK		
⚠Q921	8-729-142-51	TRANSISTOR	2SD1616A-TP-LK		
Q943	1-801-806-11	TR DTC144EKA			
Q945	6-550-718-01	TRANSISTOR	RSR025N03TL		
Q947	1-801-806-11	TR DTC144EKA			
		< RESISTOR >			
⚠R901	1-219-759-11	METAL	1M	5% 1/2W	
⚠R903	1-215-926-00	METAL OXIDE	33K	5% 3W F	(HDZ235)
⚠R903	1-215-929-11	METAL OXIDE	100K	5% 3W F	(DZ230/DZ231)

POWER **P-SW** **SPEAKER**

Ref. No.	Part No.	Description			Remark
⚠R904	1-215-926-00	METAL OXIDE	33K	5%	3W F (HDZ235)
⚠R904	1-215-929-11	METAL OXIDE	100K	5%	3W F (DZ230/DZ231)
⚠R905	1-216-797-11	METAL CHIP	10	5%	1/10W
⚠R906	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
⚠R907	1-216-833-11	METAL CHIP	10K	5%	1/10W
⚠R908	1-260-105-11	CARBON	3.3K	5%	1/2W
⚠R909	1-216-845-11	METAL CHIP	100K	5%	1/10W
⚠R910	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
⚠R911	1-216-813-11	METAL CHIP	220	5%	1/10W
⚠R912	1-216-361-61	METAL OXIDE	0.22	5%	2W F (HDZ235)
⚠R912	1-216-363-00	METAL OXIDE	0.33	5%	2W F (DZ230/DZ231)
⚠R913	1-216-361-61	METAL OXIDE	0.22	5%	2W F (HDZ235)
⚠R914	1-220-891-11	METAL	0.1	10%	5W F (DZ230/DZ231)
⚠R914	1-243-669-11	METAL	0.05	5%	5W F (HDZ235)
⚠R919	1-216-836-11	METAL CHIP	18K	5%	1/10W
⚠R922	1-216-793-11	METAL CHIP	4.7	5%	1/10W
⚠R923	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
⚠R925	1-216-797-11	METAL CHIP	10	5%	1/10W
⚠R926	1-216-855-11	METAL CHIP	680K	5%	1/10W
⚠R927	1-216-348-00	METAL OXIDE	0.82	5%	1W F (HDZ235)
⚠R927	1-216-349-00	METAL OXIDE	1	5%	1W (DZ230/DZ231)
⚠R929	1-246-106-11	METAL OXIDE	2.2	5%	1/2W F
R931	1-218-859-11	METAL CHIP	3.3K	0.5%	1/10W
R932	1-218-883-11	METAL CHIP	33K	0.5%	1/10W
R933	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R934	1-216-821-11	METAL CHIP	1K	5%	1/10W
R935	1-216-821-11	METAL CHIP	1K	5%	1/10W
R936	1-216-853-11	METAL CHIP	470K	5%	1/10W
R937	1-216-833-11	METAL CHIP	10K	5%	1/10W
R938	1-216-821-11	METAL CHIP	1K	5%	1/10W
R939	1-218-859-11	METAL CHIP	3.3K	0.5%	1/10W
R940	1-216-833-11	METAL CHIP	10K	5%	1/10W
R941	1-216-845-11	METAL CHIP	100K	5%	1/10W
R942	1-216-833-11	METAL CHIP	10K	5%	1/10W
R943	1-216-839-11	METAL CHIP	33K	5%	1/10W
R945	1-216-833-11	METAL CHIP	10K	5%	1/10W
R946	1-216-837-11	METAL CHIP	22K	5%	1/10W
R948	1-216-833-11	METAL CHIP	10K	5%	1/10W
R949	1-216-821-11	METAL CHIP	1K	5%	1/10W
R951	1-218-831-11	METAL CHIP	220	0.5%	1/10W
R952	1-218-855-11	METAL CHIP	2.2K	0.5%	1/10W
R953	1-218-861-11	METAL CHIP	3.9K	0.5%	1/10W
R954	1-216-837-11	METAL CHIP	22K	5%	1/10W
R955	1-216-817-11	METAL CHIP	470	5%	1/10W
R956	1-216-821-11	METAL CHIP	1K	5%	1/10W
R957	1-216-841-11	METAL CHIP	47K	5%	1/10W
R958	1-216-821-11	METAL CHIP	1K	5%	1/10W
R960	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R962	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R965	1-218-865-11	METAL CHIP	5.6K	0.5%	1/10W
R966	1-216-821-11	METAL CHIP	1K	5%	1/10W
R967	1-216-821-11	METAL CHIP	1K	5%	1/10W
R968	1-216-821-11	METAL CHIP	1K	5%	1/10W
R969	1-216-821-11	METAL CHIP	1K	5%	1/10W
R971	1-216-864-11	SHORT CHIP	0		
R972	1-216-833-11	METAL CHIP	10K	5%	1/10W
R974	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R979	1-216-864-11	SHORT CHIP	0 (DZ230/DZ231)		
		< TRANSFORMER >			
T901	1-443-649-11	TRANSFORMER, CONVERTER (HDZ235)			
T901	1-443-874-11	TRANSFORMER, CONVERTER (DZ230/DZ231)			
T902	1-443-650-11	TRANSFORMER, CONVERTER			
		< THERMISTOR >			
⚠TH901	1-805-841-21	THERMISTOR, NTC 3.0 (HDZ235)			
⚠TH901	1-805-842-21	THERMISTOR, NTC 6.0 (DZ230/DZ231)			
		< VARISTOR >			
⚠VDR901	1-805-482-11	VARISTOR			
**********					
		P-SW BOARD			
		**********			
		< CAPACITOR >			
C851	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		< SWITCH >			
S801	1-762-875-21	SWITCH, KEYBOARD (I/⏻)			
**********					
		SPEAKER BOARD			
		**********			
		< CAPACITOR >			
C301	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C302	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C303	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C304	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C305	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C306	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C307	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C308	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C309	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C310	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C311	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C312	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C313	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C314	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C315	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C316	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
* CN303	1-564-523-11	PLUG, CONNECTOR 8P			

Ref. No.	Part No.	Description	Remark
		< TERMINAL >	
TB301	1-780-454-11	TERMINAL BOARD (SPEAKER) 4P (SPEAKER FRONT R/FRONT L/SUR R/SUR L)	
**********			
		MISCELLANEOUS	
		**********	
5	1-828-307-51	WIRE (FLAT TYPE)(9 CORE) (DZ230/DZ231)	
7	1-828-952-51	WIRE (FLAT TYPE)(9 CORE) (HDZ235)	
7	1-828-962-51	WIRE (FLAT TYPE)(11 CORE) (DZ230/DZ231)	
8	1-693-724-11	TUNER (FM/AM) (DZ230/DZ231)	
8	1-693-731-11	TUNER (FM/AM) (HDZ235)	
59	1-828-325-51	WIRE (FLAT TYPE)(13 CORE)	
61	1-828-374-51	WIRE (FLAT TYPE)(21 CORE)	
102	1-828-292-51	WIRE (FLAT TYPE)(5 CORE)	
103	1-828-339-51	WIRE (FLAT TYPE)(15 CORE) (HDZ235)	
103	1-828-369-51	WIRE (FLAT TYPE)(21 CORE) (DZ230/DZ231)	
104	1-828-317-51	WIRE (FLAT TYPE)(11 CORE) (HDZ235)	
104	1-828-327-51	WIRE (FLAT TYPE)(13 CORE) (DZ230/DZ231)	
109	1-787-331-11	FAN, D.C.	
⚠110	1-751-520-31	CORD, POWER (UK)	
⚠110	1-830-188-11	CORD, POWER (AEP)	
⚠110	1-830-190-11	CORD, POWER (HDZ235)	
⚠507	8-820-321-05	OPTICAL PICK UP ASSY KHM-313CAA/C2RP	
508	1-828-773-51	WIRE (FLAT TYPE)(24 CORE)	
⚠F901	1-533-311-12	FUSE,GLASS CYLINDRICAL (DIA.5) (8A/125V) (HDZ235)	
⚠F901	1-576-233-51	FUSE (H.B.C.) (T6.3AH/250V)(DZ230/DZ231)	

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2007.01	New
1.1	2007.03	Change of FM Tune Level Check (SPM-07002)